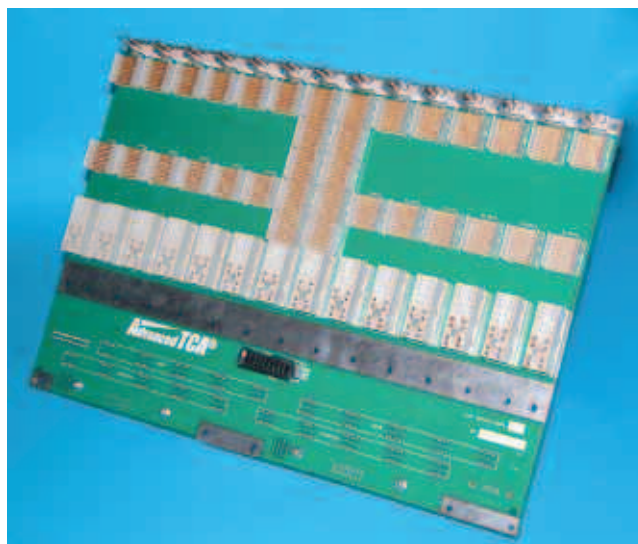




**Tyco Electronics**  
Our commitment. Your advantage.

## Introduction



### Solutions For AdvancedTCA

Hardware designers, particularly those working on blades or chassis, are currently faced with huge challenges. The needs of the communications network infrastructure and next generation communication applications are rapidly changing, and cannot be served by existing proprietary solutions.

Therefore AdvancedTCA (Advanced Telecommunications Computing Architecture), MicroTCA (Micro Telecommunications Computing Architecture) and AdvancedMC (Advanced Mezzanine Card) open industry standards have been developed by PICMG to place a high priority on cost effectiveness while attempting to support a variety of potential future technologies.

This new standard is also supported by Tyco Electronics, which shows the full range of AdvancedTCA, MicroTCA and AdvancedMC compliant components that can be offered for the wide area of applications within telecommunication as well as data communication.

### Need more information?

Call Technical Support at the numbers listed below.

Technical Support is staffed with specialists well versed in all Tyco Electronics products. They can provide you with:

- Technical Support
- Catalogs
- Technical Documents
- Product Samples
- Tyco Electronics Authorized Distributor Locations

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### Why are AdvancedTCA and MicroTCA Standards Important?

AdvancedTCA and MicroTCA provide a means for the telecommunications equipment market to take advantage of standardized, off-the-shelf hardware (enabling differentiation through application-layer and system-level software rather than hardware).

- Shorter time to market
- Increased vendor choice
- Increased flexibility
- Multiple switch fabrics supported
- User defined I/O
- Lower cost (Acquisition CapEx/OpEx)

### Examples of Telecom & Network Equipment Manufacturers' Related AdvancedTCA and MicroTCA Applications & Systems

#### Wireless Infrastructure Equipment

- Base Stations  
3G (IMT-2000)  
WCDMA  
CDMA2000  
TD-SCDMA

- Radio Network Controllers (RNC)
- Serving Gateway Support Node (SGSN)
- Gateway GPRS Support Node (GGSN)
- Home Location Register (HLR)
- IP Multimedia Subsystem (IMS) Servers
- Media and Application Servers
- Media Gateways and Soft Switches

#### Wireline Networking Equipment

- DSLAMs
- Multi-service switches
- Media servers
- Blade servers
- VOIP Session Controllers

#### Fiber Optic Networking Equipment



## Introduction (Continued)



### What Is AdvancedTCA?

AdvancedTCA is an open industry standard, developed by PICMG 3.0, to create a new blade (board) and chassis (shelf) form factor, tailored to meet the needs of the rapidly changing communications network infrastructure, and next generation communication applications, which cannot be served by existing proprietary solutions. This architecture places high priority on cost effectiveness versus attempting to support a variety of potential future technologies.

While the specification is founded on the requirements of the communications infrastructure, it is extensible to a variety of applications and environments where highly available, highly scalable, cost effective and open architecture modular solutions are required.

The architecture is optimized around connectivity requirements of signaling and media gateways, while also providing headroom for higher performance computing elements @ a 99.999% availability rate. AdvancedTCA offers a scalable backplane environment that supports:

- A variety of standard and proprietary fabric interfaces
- Robust system management
- Superior power and cooling capabilities.

Each board in AdvancedTCA (up to 16 boards a shelf and 3 shelves a rack) may support up to 200 W in a single slot. The power is supplied to each board via redundant -48 VDC feeds. Front and rear cabling practice is supported for standard 600 mm total depth cabinet practice, prevalent in Central Office facilities.

### AdvancedTCA® 300

#### What Is AdvancedTCA300?

AdvancedTCA300 is an AdvancedTCA based equipment platform, but compliant with the ANSI and ETSI equipment practices requiring 300 mm total depth, front access included.

### AdvancedMC™

#### What Is AdvancedMC?

The AdvancedMC standard, also developed by PICMG, defines the base-level requirements for a wide-range of high-speed mezzanine cards, optimized for, but not limited to, AdvancedTCA and MicroTCA carrier blades. AdvancedMC defines a modular add-on or "child" card that extends the functionality of an AdvancedTCA carrier board. In an AdvancedTCA equipment practice, the AdvancedMC modules lie parallel to and are integrated onto the AdvancedTCA carrier board. The AdvancedMC cards can also be equipped in MicroTCA shelves.

### μTCA™

#### What Is MicroTCA?

MicroTCA is complementary to AdvancedTCA, but is optimized for smaller scale and more price sensitive applications. The basic premise of MicroTCA is to support mezzanine boards, conform to the AdvancedMC standard, and connect to the backplane, eliminating the need to use an additional carrier board. Like AdvancedTCA, the MicroTCA equipment practice is a modular, open standards based shelf level platform. The MicroTCA standard has not finished completion yet.

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[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)

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**See inside back cover for Global  
Contacts and phone numbers.**

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## Restriction on the use of Hazardous Substances (RoHS)

At Tyco Electronics, we're ready to support your RoHS require-  
ments. We've assessed more than 1.5 million end items/com-  
ponents for RoHS compliance, and issued new part numbers  
where any change was required to eliminate the restricted  
materials. Part numbers in this catalog are identified as:

**RoHS Compliant** — Part numbers in this catalog are RoHS  
Compliant, unless marked otherwise. These products comply  
with European Union Directive 2002/95/EC as amended 1  
January 2006 that restricts the use of lead, mercury, cadmium,  
hexavalent chromium, PBB, and PBDE in certain electrical and  
electronic products sold into the EU as of 1 July 2006.

NOTE: For purposes of this Catalog, included within the defini-  
tion of RoHS Compliant are products that are clearly "Out of  
Scope" of the RoHS Directive such as hand tools and other  
non-electrical accessories.

**5 of 6 Compliant** — A "●" symbol identifies these part  
numbers. These products do not fully comply with the  
European Union Directive 2002/95/EC because they contain  
lead in solderable interfaces (they do not contain any of the  
other five restricted substances above allowable limits).  
However, these products may be suitable for use in RoHS  
applications where there is an application-based exception for  
lead in solders, such as the server, storage, or networking  
infrastructure exemption.

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current actual knowledge based on the information provided by  
our suppliers. This information is subject to change. For latest  
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### Getting the Information You Need

Our comprehensive on-line RoHS Customer Support Center  
provides a forum to answer your questions and support your  
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available with links to more detailed information. You can also  
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Products
- Ability to browse RoHS  
Compliant Products in our  
on-line catalog
- Downloadable Technical Data  
Customer Information  
Presentation
- More detailed information  
regarding the definitions used above
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**RoHS**  
Customer  
Support  
Center



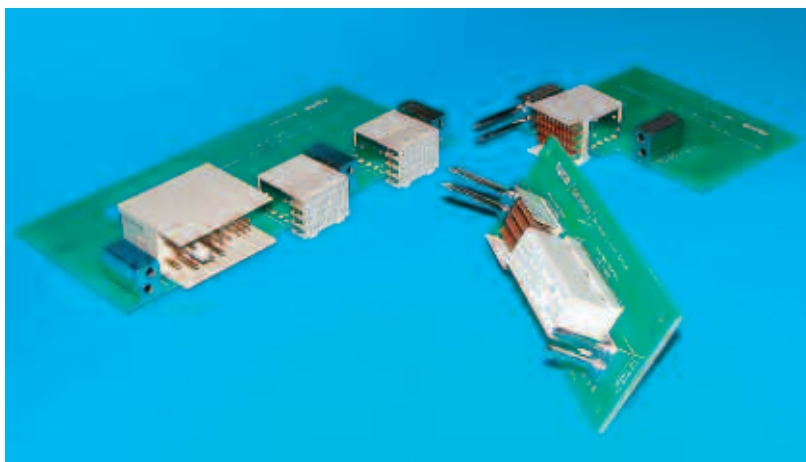
## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications

### AdvancedTCA — Zone 1 Power Connectors

Tyco Electronics' AdvancedTCA Power Connector is designed to meet or exceed the PICMG 3.0, R2.0 (AdvancedTCA) specification for Zone 1 connector requirements including four levels of sequential mating to provide proper system functionality during live insertion or extraction of front boards. Integrated lead-in on the injection molded housing provides superior blind mate capability and is fully intermateable with competing connectors designed to meet the AdvancedTCA specification for power connectors.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)  
[www.elconproducts.com](http://www.elconproducts.com)

Catalog 1773096 / 1773095  
Flyer 2-1773441-7



#### FEATURES:

- High conductivity, precision formed contacts
- Selective plating in compliance with RoHS requirements
- Precision formed compliant terminations offer excellent retention to provide a reliable connection
- Qualified to meet PICMG 3.0, R2.0 specification

### AdvancedTCA Zone 1 Connector

**Front Board Connector**  
**Right Angle Header**  
**Part Number 1766500-1**

**Backplane Connector**  
**Vertical Receptacle**  
**Part Number 1766501-1**



Backplane Connector



Daughtercard Connector

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Industrial Computer Manufacturers  
Group Incorporated.

**Note:** Part Numbers are RoHS compliant.

## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### AdvancedTCA Zone 1 Connector

(Continued)

**Front Board Connector**  
**Right Angle,**  
**Compliant Press-fit**  
**Part Number 1766500-1**  
(tin plated pcb tails)  
**Part Number 1766500-2●**  
(tin-lead pcb tails)

**Right Angle Plug, 22-Position,**  
**Compliant Press-fit**  
**Part Number 1766502-1**  
(tin plated pcb tails)  
**Part Number 1766502-2●**  
(tin-lead pcb tails)

#### Material and Finish

**Insulators** — Thermoplastic, glass reinforced, black, UL94V-0

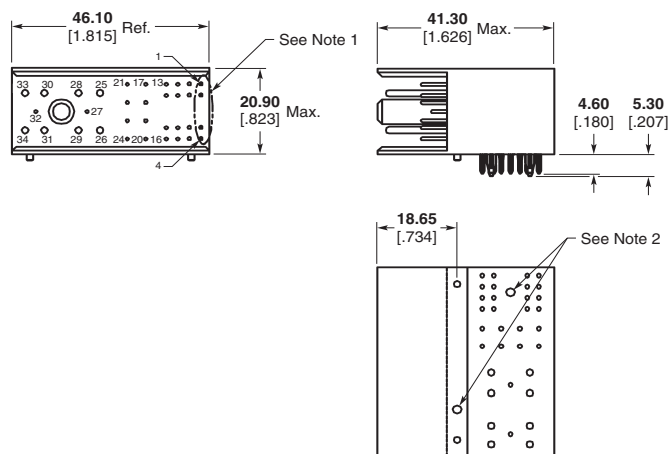
**Signal Pins** — Copper alloy

**Power Contacts** — High conductivity copper alloy, plated 0.00076 [.000030] min. gold in mating area

**Solder Tails** — 0.0030 - 0.0043 [.000120 - .000170] tin plated

#### Notes:

1. Mounting Holes ( $\varnothing$  2.00 [.079] x 5.00 [.197] DP) for use with self tapping screw (customer supplied).
2. Positions 1–4 not populated and reserved for future use.



**Backplane Connector**  
**Straight, Compliant Press-fit,**  
**Part Number 1766501-1**  
(tin plated pcb tails)  
**Part Number 1766501-2●**  
(tin-lead pcb tails)

**Straight, 22-Position,**  
**Compliant Press-fit**  
**Part Number 1766503-1**  
(tin plated pcb tails)  
**Part Number 1766503-2●**  
(tin-lead pcb tails)

#### Material and Finish

**Insulators** — Thermoplastic, glass reinforced, black, UL94V-0

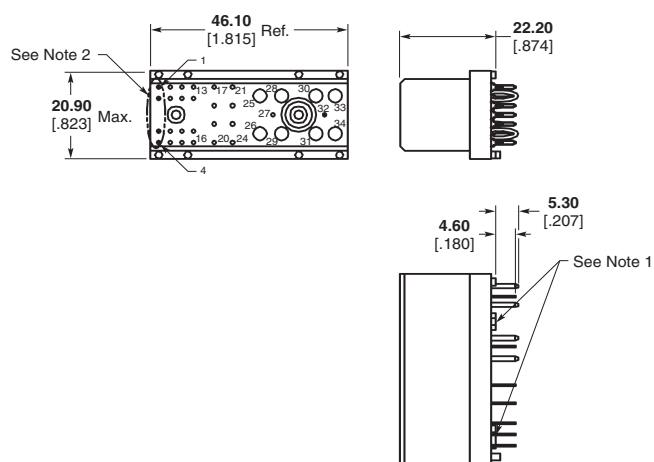
**Signal Pins** — Copper alloy

**Power Contacts** — High conductivity copper alloy, plated 0.0076 [.000030] min. gold in mating area

**Solder tails** — 0.0030 - 0.0043 [.000120 - .000170] tin plated

#### Notes:

1. Mounting Holes ( $\varnothing$  2.00 [.079] x 5.00 [.197] DP) for use with self tapping screw (customer supplied).
2. Positions 1–4 not populated and reserved for future use.



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**Note:** Part Numbers are RoHS compliant except: ● Indicates "5 of 6 compliant" (lead in solderable interface only).



## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### AdvancedTCA — Zone 2 Z-PACK HM-Zd High Speed Signal Connectors

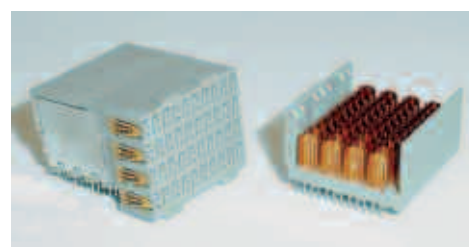
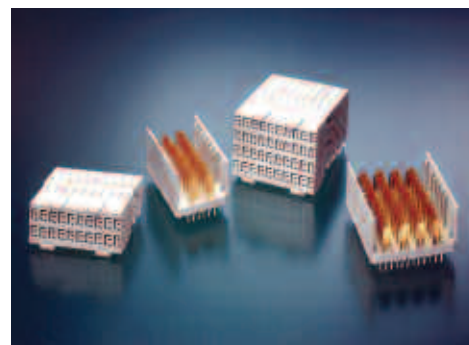
Z-PACK HM-Zd product from Tyco Electronics is the high-speed, Advanced Differential Fabric Connector system specified by PICMG for use in AdvancedTCA Zone 2. The coplanar application version using the right angled male and identical Zone 2 card connector (right angled female), can be used in Zone 3. In addition to the four-pair connector modules specified for use in AdvancedTCA Zone 2, the product line includes two-pair and three-pair signal modules, coplanar connectors, and high-speed cable assemblies for use in Zone 3. A mezzanine style connector is also available in a four-pair version.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)  
[www.hmzd.tycoelectronics.com](http://www.hmzd.tycoelectronics.com)

**Catalog 1773095**  
**Flyer 1308658**

#### FEATURES

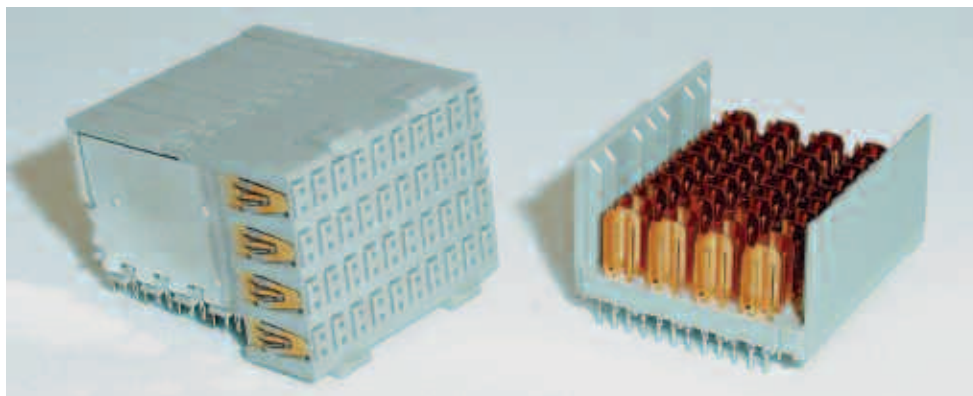
- Designed specifically for high-speed differential applications (3.125 Gb/s to 10+Gb/s)
- A modular connector system with a standard module size of 25.00 [.984]
- Z-PACK HM-Zd product is an extension of the Z-PACK 2 mm HM product line
- Pin header and receptacle have the exact same footprint to simplify PC board layout
- Optimized footprint supports quad routing techniques for improved electrical performance, ease of trace routing, and significant PCB manufacturing cost reductions
- Designed to meet Telcordia requirements



#### AdvancedTCA Zone 2 Z-PACK HM-Zd High Speed Signal Connectors

**Front Board Connector**  
**4 Pair Right Angle Receptacle**  
**Part Number 6469001-1**

**Backplane Connector**  
**4 Pair Vertical Header**  
**Part Number 6469002-1**



Front Board Connector

Backplane Connector

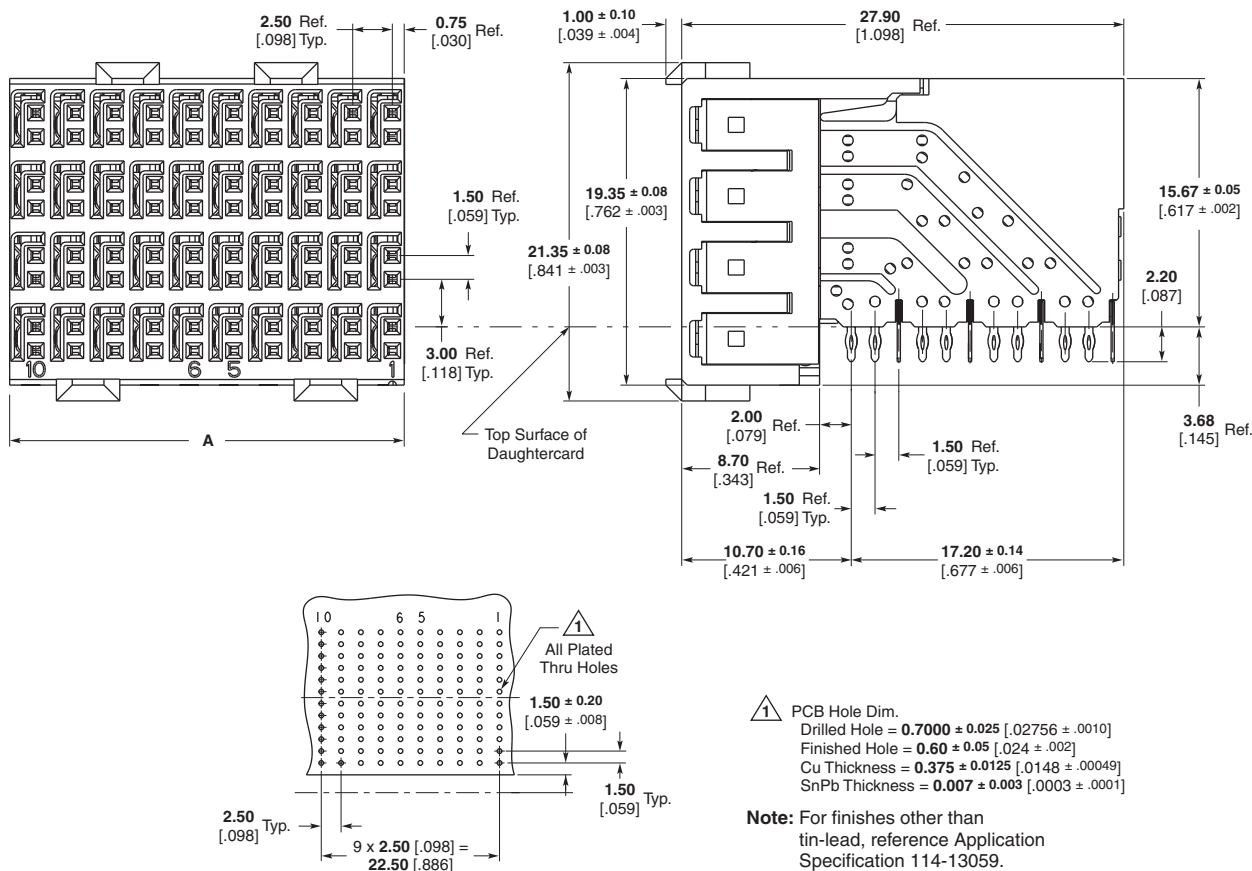
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**Note:** Part Numbers are RoHS compliant.

## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### AdvancedTCA Zone 2 Z-PACK HM-Zd High Speed Signal Connectors (Continued)

#### 4 Pair Right Angle Receptacle Assemblies



Recommended PC Board Layout  
Daughter Board, Component Side Shown

| Part Number            | Column Count | Module Length (Dim. A) | Signals | Grounds | Application Tooling  |                        |                        |
|------------------------|--------------|------------------------|---------|---------|----------------------|------------------------|------------------------|
|                        |              |                        |         |         | Insertion Receptacle | Repair Housing Removal | Repair Chiclet Removal |
| 6469001-1 <sup>1</sup> | 10           | 25.00<br>.984          | 80      | 40      | 91347-1              | 1583224-1              | 1583248-1              |
| 6469286-1              | 12           | 30.00<br>1.181         | 96      | 48      | 91347-3              | 1583224-2              | 1583248-1              |
| 6469294-1              | 15           | 37.50<br>1.476         | 120     | 60      | 91347-2              | 1583224-3              | 1583248-1              |
| 6469061-1              | 20           | 50.00<br>1.969         | 160     | 80      | 91347-4              | 1583224-4              | 1583248-1              |

<sup>1</sup> AdvancedTCA Zone 2 Daughtercard Connector.

**Note:** Part Numbers are RoHS compliant.

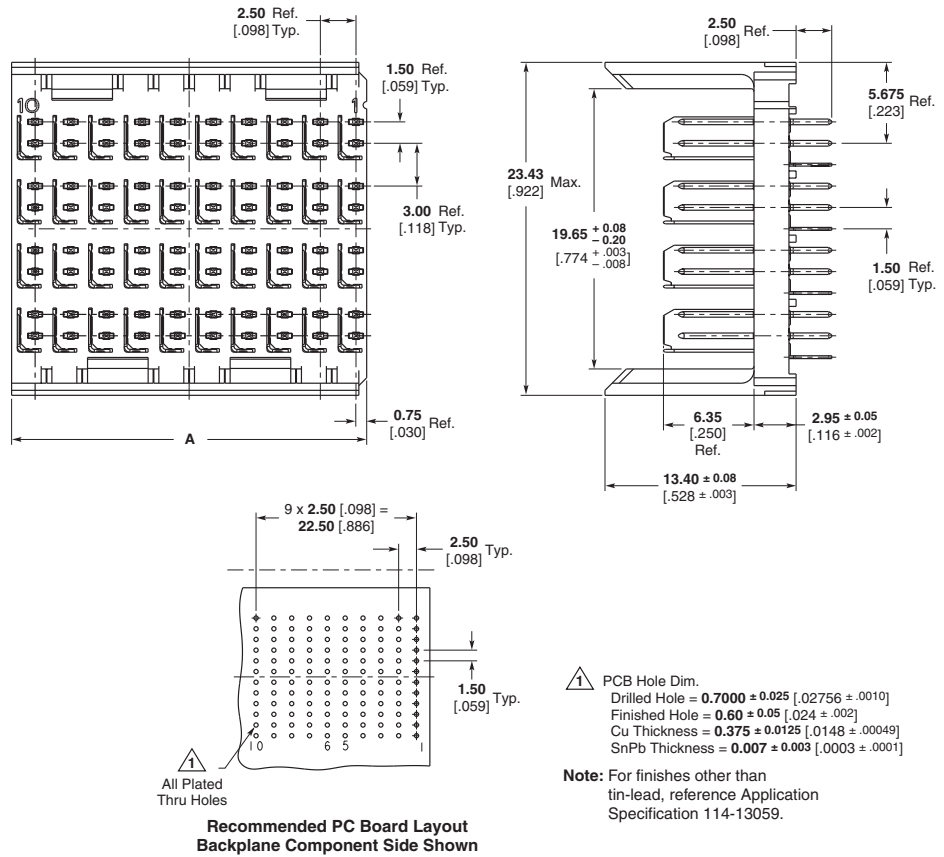
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## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### AdvancedTCA Zone 2 Z-PACK HM-Zd High Speed Signal Connectors (Continued)

#### 4 Pair Vertical Pin Header Assemblies



| Part Number            | Tail Length  | Mating Pin Length | Column Count | Module Length (Dim. A) | Signals | Grounds | Application Tooling |             |           |               |
|------------------------|--------------|-------------------|--------------|------------------------|---------|---------|---------------------|-------------|-----------|---------------|
|                        |              |                   |              |                        |         |         | Insertion           | Pin Removal | Repair    | Pin Insertion |
| 6469002-1 <sup>1</sup> | 2.50<br>.098 | 5.30<br>.209      | 10           | 25.00<br>.984          | 80      | 40      | 91349-1             | 1583237-1   | 1583220-1 | 1583255-1     |
| 6469046-1 <sup>2</sup> | 2.50<br>.098 | 5.30<br>.209      | 10           | 25.00<br>.984          | 80      | 40      | 91349-1             | 1583237-1   | 1583220-1 | 1583255-1     |
| 6469074-1              | 1.80<br>.071 | 5.30<br>.209      | 10           | 25.00<br>.984          | 80      | 40      | 91349-1             | 1583237-1   | 1583220-1 | 1583255-1     |
| 6469287-1              | 2.50<br>.098 | 5.30<br>.209      | 12           | 30.00<br>1.181         | 96      | 48      | 91349-3             | 1583237-1   | 1583220-1 | 1583255-1     |
| 6469296-1              | 2.50<br>.098 | 5.30<br>.209      | 15           | 37.50<br>1.476         | 120     | 60      | 91349-2             | 1583237-1   | 1583220-1 | 1583255-1     |
| 6469062-1              | 2.50<br>.098 | 5.30<br>.209      | 20           | 50.00<br>1.969         | 160     | 80      | 91349-4             | 1583237-1   | 1583220-1 | 1583255-1     |
| 6469099-1              | 1.80<br>.071 | 5.30<br>.209      | 20           | 50.00<br>1.969         | 160     | 80      | 91349-4             | 1583237-1   | 1583220-1 | 1583255-1     |

<sup>1</sup> AdvancedTCA Zone 2 Backplane Connector.

<sup>2</sup> Shallow Wall for Daughtercards thicker than 3.50 [.138].

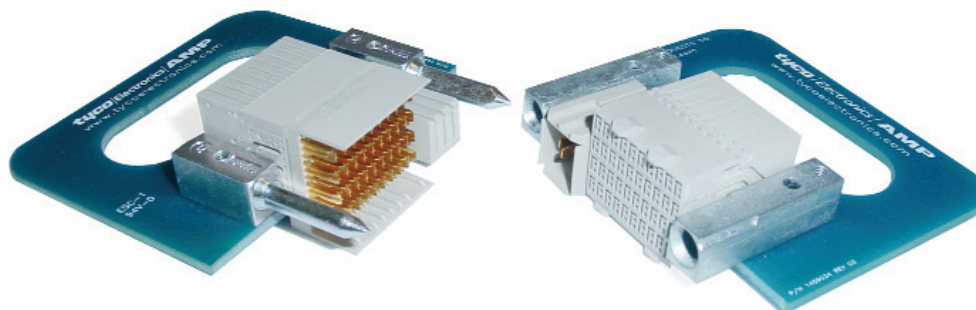
**Note:** Part Numbers are RoHS compliant.

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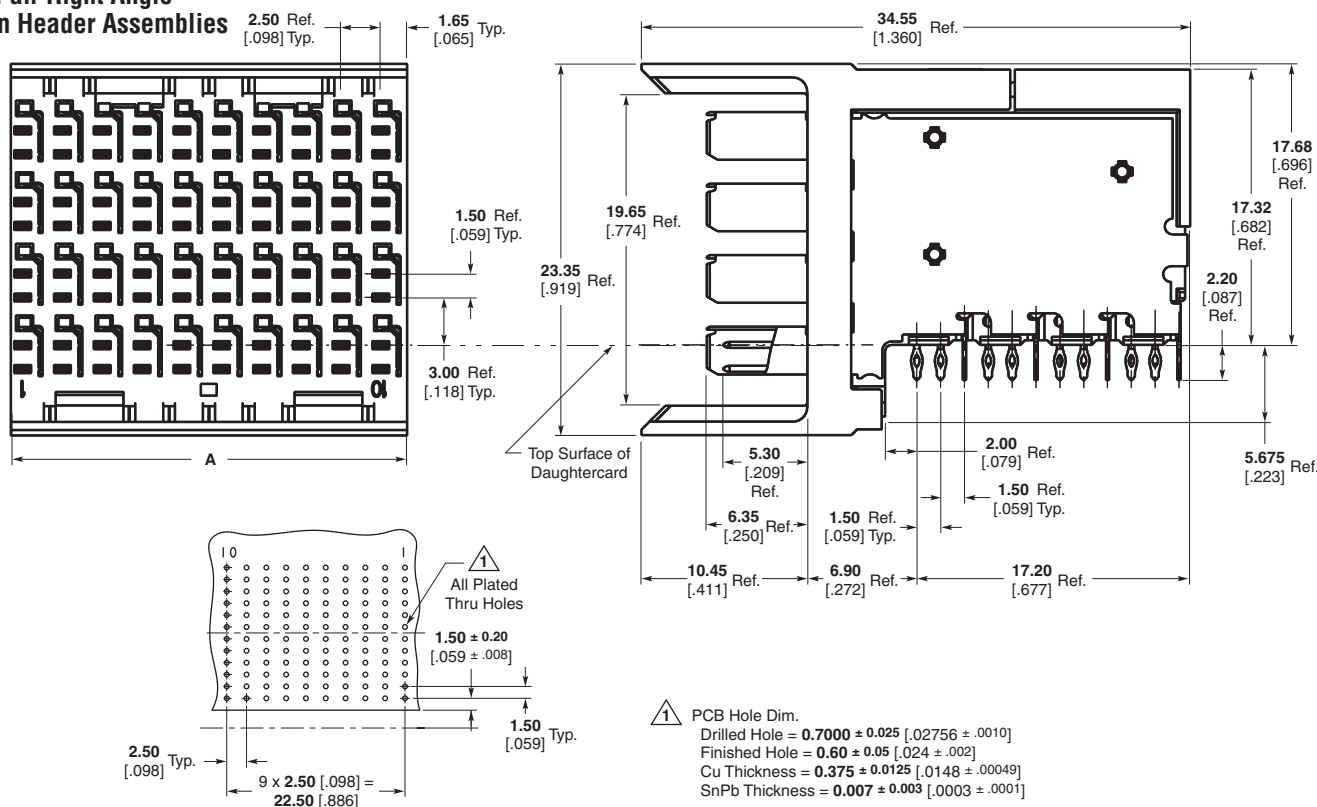
## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### Z-PACK HM-Zd RTM Board Connector for AdvancedTCA Zone 3 Standard

**AdvancedTCA Zone 3  
Z-PACK HM-Zd  
High Speed, Co-Planar  
RTM Board Connector**  
4 Pair Right Angle Header  
Part Number 6469048-1  
Part Number 6469375-1  
Front Board Connector  
4 Pair Right Angle  
Receptacle  
Part Number 6469001-1  
(see page 8)



#### 4 Pair Right Angle Pin Header Assemblies



**Recommended PCB Board Layout  
Component Side Shown**

| Part Number | Tail Length  | Mating Pin Length | Column Count | Module Length (Dim. A) | Signals | Grounds | Application Tooling  |                 |                        |
|-------------|--------------|-------------------|--------------|------------------------|---------|---------|----------------------|-----------------|------------------------|
|             |              |                   |              |                        |         |         | Insertion Pin Header | Housing Removal | Repair Chiclet Removal |
| 6469048-1   | 2.20<br>.087 | 5.30<br>.209      | 10           | 25.00<br>.984          | 80      | 40      | 91378-1              | 1804174-1       | 1804177-1              |
| 6469375-1   | 2.20<br>.087 | 5.30<br>.209      | 12           | 30.00<br>1.181         | 96      | 48      | 91378-3              | 1804174-1       | 1804177-1              |

**Note:** Part Numbers are RoHS compliant.

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## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### Co-Planar UPM for AdvancedTCA Zone 3 Power Applications

The Co-Planar Universal Power Module (UPM) is specifically designed to meet the need of connecting two printed circuit boards on the same plane. The UPM connector features hot-pluggable, 16 Amp power industry proven contacts and have three sequencing levels.

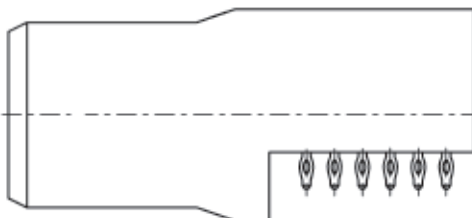
#### FEATURES

- Hot-Pluggable contact design
- 16 Amp per contact (on 4-position)
- 250 cycle durability
- Touch-safe receptacle



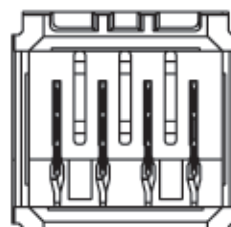
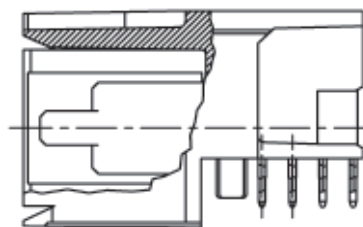
### Right Angle Receptacle

| No. of Circuit Positions | Right-Angle High Power 16 Amps/Contact Part Numbers |
|--------------------------|-----------------------------------------------------|
| 3                        | 120943-1                                            |
| 4                        | 120943-2                                            |
| 5                        | 120943-3                                            |
| 6                        | 120943-4                                            |
| 7                        | 120943-5                                            |
| 8                        | 120943-6                                            |
| 9                        | 120943-7                                            |



### Right Angle Plug

| Number of Positions | Dimension L    | High Power 16 Amps/Contact Sequence* Pattern | Part Number |
|---------------------|----------------|----------------------------------------------|-------------|
| 3                   | 12.00<br>.472  | M,M,M                                        | 5-5223961-1 |
|                     |                | M,L,M                                        | 5-5223963-1 |
|                     |                | **                                           | **          |
| 4                   | 15.00<br>.591  | L,L,L,L                                      | 120954-1    |
|                     |                | L,M,S,S                                      | 120954-2    |
|                     |                | **                                           | **          |
| 5                   | 18.00<br>.709  | L,L,L,L,L                                    | 120955-1    |
|                     |                | M,M,L,M,M                                    | 120955-2    |
|                     |                | **                                           | **          |
| 6                   | 21.00<br>.827  | L,L,L,L,L,L                                  | 120956-1    |
|                     |                | L,M,S,S,S,S                                  | 120956-2    |
|                     |                | **                                           | **          |
| 7                   | 24.00<br>.945  | L,L,L,L,L,L,L                                | 120957-1    |
|                     |                | L,S,S,L,S,S,L                                | 120957-2    |
|                     |                | **                                           | **          |
| 8                   | 27.00<br>1.063 | L,L,L,L,L,L,L,L                              | 120958-1    |
|                     |                | L,M,S,S,S,S,S,S                              | 120958-2    |
|                     |                | **                                           | **          |



\*Sequencing Reads left-to-right along mating face.

L (long) = 10.90 [.429], M (medium) = 9.30 [.366], S [short] = 7.68 [.302]

\*\*Other sequence patterns available. See on-line customer drawing.

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**Note:** Part Numbers are RoHS compliant.



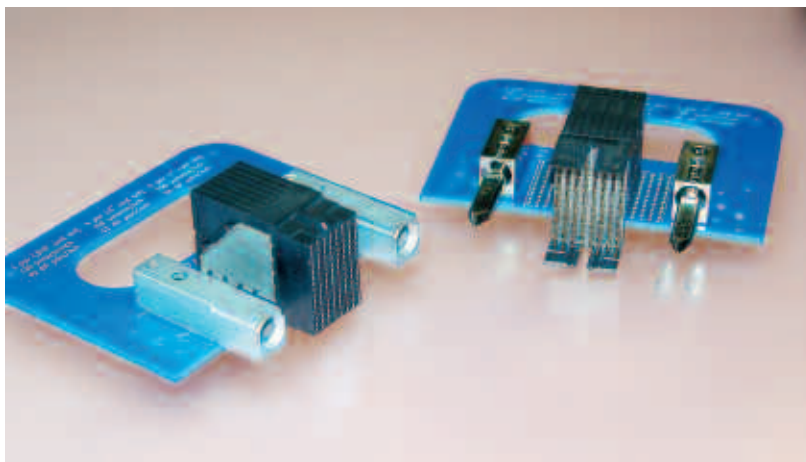
## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### Z-PACK TinMan Connectors for AdvancedTCA Standards — Zone 3

Tyco Electronics Z-PACK TinMan product is a new high speed, 100-Ohm Impedance matched connector with extreme signal density. This connector can be pinned out for lower speed signal ended lines and exists in 3, 4, and 5 pair per column versions.

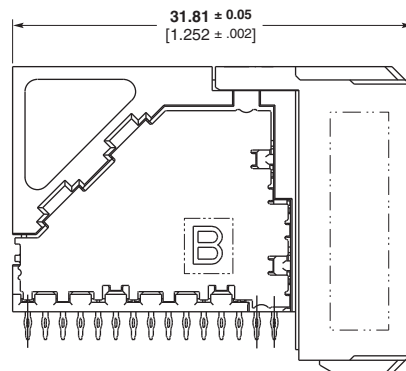
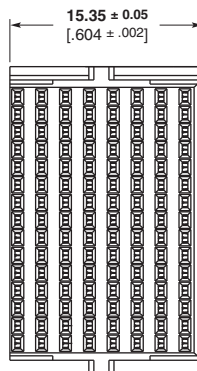
#### FEATURES:

- High speed: +10 Gbps
- High Density: 25 pair/cm [66 pairs/in]
- 3, 4, and 5 pair per column versions (5 pair shown)
- Available with or without end walls for pin protection
- Designed to meet Telcordia requirements



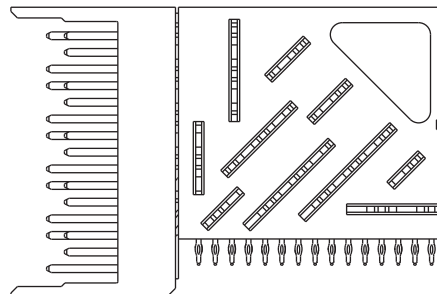
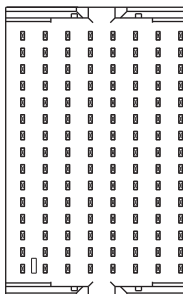
#### Z-PACK TinMan Receptacles

| No. of Pairs | Columns | Part Number | Dimensions    |                |
|--------------|---------|-------------|---------------|----------------|
|              |         |             | Length        | Width          |
| 3            | 8       | 1934226-1   | 31.81<br>1.25 | 15.35<br>.604  |
|              | 16      | 1934229-1   | 31.81<br>1.25 | 30.55<br>1.203 |
| 4            | 8       | 1934222-1   | 31.81<br>1.25 | 15.35<br>.604  |
|              | 16      | 1934225-1   | 31.81<br>1.25 | 30.55<br>1.203 |
| 5            | 8       | 1934218-1   | 31.81<br>1.25 | 15.35<br>.604  |
|              | 16      | 1934221-1   | 31.81<br>1.25 | 30.55<br>1.203 |



#### Z-PACK TinMan Headers

| No. of Pairs | Columns | Part Number | Dimensions    |                | End Walls |
|--------------|---------|-------------|---------------|----------------|-----------|
|              |         |             | Length        | Width          |           |
| 3            | 8       | 1469974-1   | 31.81<br>1.25 | 15.35<br>.604  | N         |
|              |         | 1469977-1   | 31.81<br>1.25 | 18.05<br>.710  | Y         |
|              | 16      | 1934034-1   | 31.81<br>1.25 | 30.55<br>1.203 | N         |
|              |         | 1934037-1   | 31.81<br>1.25 | 33.25<br>1.31  | Y         |
| 4            | 8       | 1469793-1   | 31.81<br>1.25 | 15.35<br>.604  | N         |
|              |         | 1469795-1   | 31.81<br>1.25 | 18.05<br>.710  | Y         |
|              | 16      | 1934026-1   | 31.81<br>1.25 | 30.55<br>1.203 | N         |
|              |         | 1934029-1   | 31.81<br>1.25 | 33.25<br>1.31  | Y         |
| 5            | 8       | 1469735-1   | 31.81<br>1.25 | 15.35<br>.604  | N         |
|              |         | 1469737-1   | 31.81<br>1.25 | 18.05<br>.710  | Y         |
|              | 16      | 1934018-1   | 31.81<br>1.25 | 30.55<br>1.203 | N         |
|              |         | 1934021-1   | 31.81<br>1.25 | 33.25<br>1.31  | Y         |



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**Note:** Part Numbers are RoHS compliant.

## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### AdvancedTCA — Advanced Mezzanine Card (AdvancedMC) Connectors

Tyco Electronics is developing an AdvancedMC connector designed to meet the PICMG AdvancedMC specification for use with AdvancedTCA carrier boards and other related applications. The AdvancedMC product family from Tyco Electronics will include single-part Z-Pluggable connectors in Extended (B+ and A+B+) styles.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)

#### Product Specification

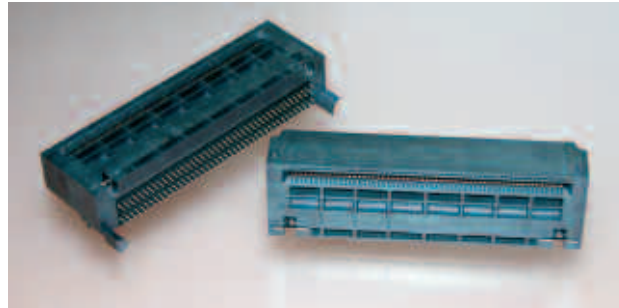
108-2277

#### Application Specification

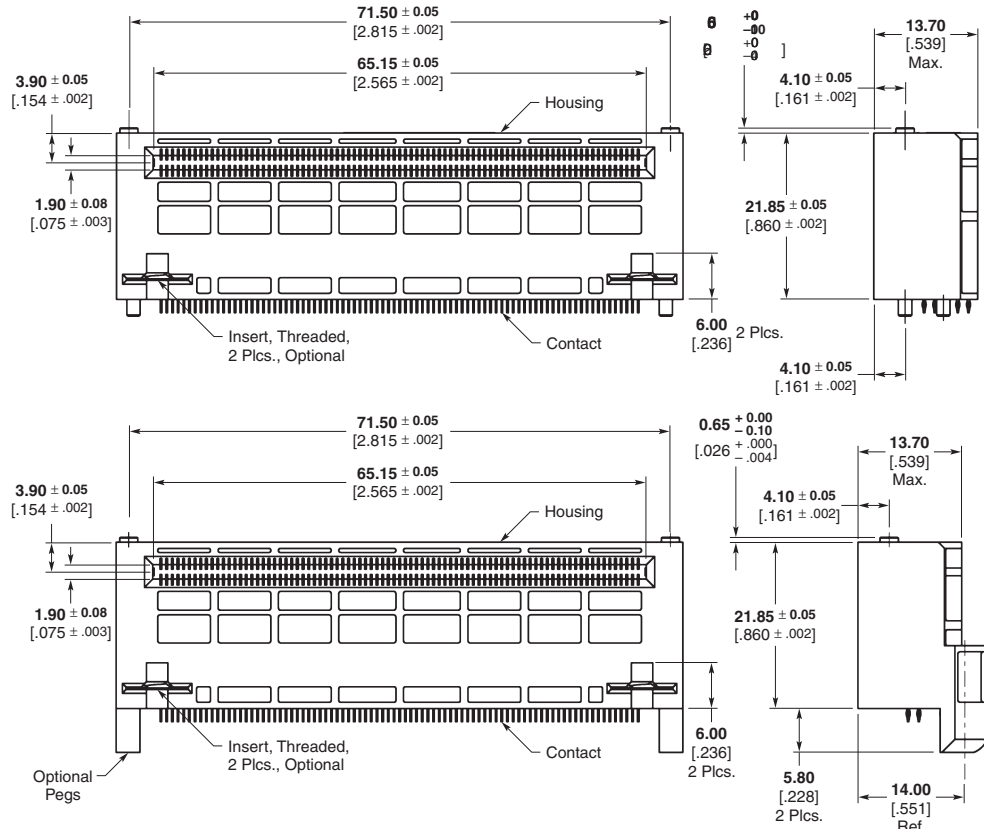
114-13181

#### FEATURES

- B+ style available now
- A+B+ styles planned
  - Targeted for high-speed differential applications (3.125 Gb/s to 10+ Gb/s):
  - Precision formed compliant pin reduces stub effect and offers excellent retention to provide a reliable connect
- Suitable for assembly processes using flat-rock tooling



#### AdvancedMC Connector, Style B+ Part Number 1367703-X



| Part Number  | Plating | Inserts | Pegs |
|--------------|---------|---------|------|
| 1367703-1●   | SnPb    | No      | No   |
| 1367703-2    | Sn      | No      | No   |
| 1-1367703-1● | SnPb    | Yes     | No   |
| 1-1367703-2  | Sn      | Yes     | No   |
| 2-1367703-1● | SnPb    | No      | Yes  |
| 2-1367703-2  | Sn      | No      | Yes  |
| 3-1367703-1● | SnPb    | Yes     | Yes  |
| 3-1367703-2  | Sn      | Yes     | Yes  |

**Note:** Part Numbers are RoHS compliant except: ● Indicates "5 of 6 compliant" (lead in solderable interface only).

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## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### MULTI-BEAM XL Connectors for AdvancedTCA 300 Standard

MULTI-BEAM XL product has recently been specified as the Power Entry Module (PEM) connector for use in AdvancedTCA 300 applications. This new MULTI-BEAM XL connector is a blind-mateable board-to-board power distribution connection system that is designed to meet the AdvancedTCA 300 specification. This new addition to the Tyco Electronics MULTI-BEAM XL product line is selectively loaded and available with press-fit or solder tail termination styles.

#### FEATURES:

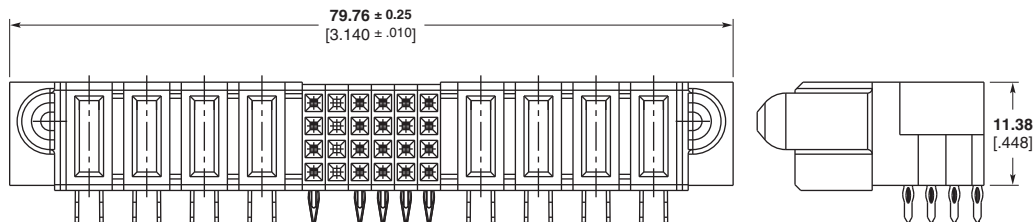
- Meets the AdvancedTCA 300 Specification
- 55 Amp Single Power Contact, 4 Amp Single Signal Contact
- Solder or Press-Fit termination to PCB
- Specially sequenced for the AdvancedTCA Specification
- Custom configurable modular design



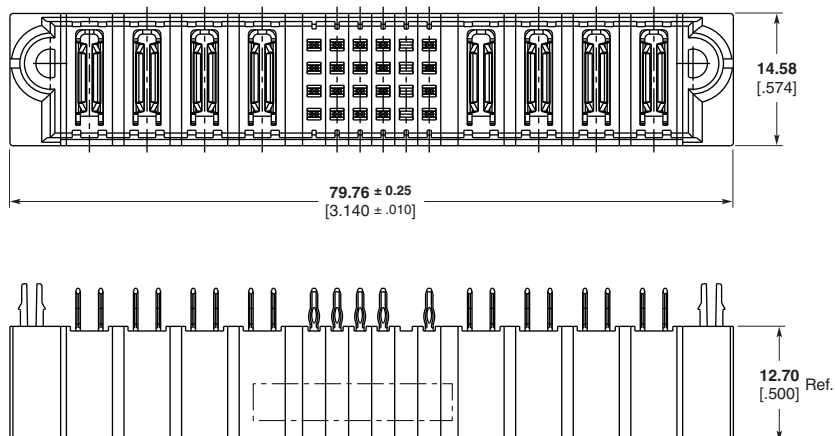
#### PEM Connector

**Right Angle Receptacle**  
For use on PEM  
Part Number 1888765-1  
(Press-Fit Version)

**Vertical Plug**  
For use on backplane  
Part Number 1888766-1  
(Press-Fit Version)



#### Backplane Connectors



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**Note:** Part Numbers are RoHS compliant.

## Product Defined in AdvancedTCA/AdvancedTCA 300 Specifications (Continued)

### AdvancedTCA — Guide Modules

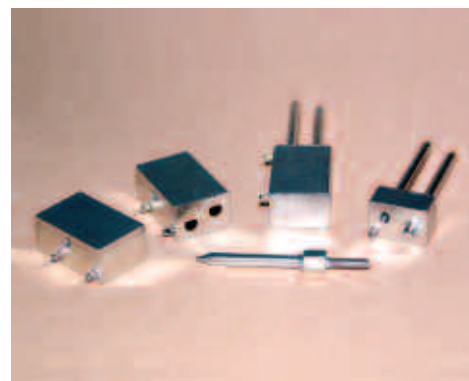
Tyco Electronics AdvancedTCA Guide Modules are available in various sizes and configurations and are suitable for use in a wide variety of applications including front board, mid plane, backplane, and a Rear Transition Module as specified in the AdvancedTCA specification. The guide hardware features improved locating features to confirm guidance is maintained across all component tolerances while the dual-keyed pin configuration allows for many different keying possibilities.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)

Catalog 1773095

#### FEATURES:

- Configurations for front board and backplane as well as midplane and coplanar applications in the RTM
- Vertical and right angle pins to support right angle and coplanar board configurations
- Guide pins are available in short or long lengths to accommodate various Tyco Electronics connectors

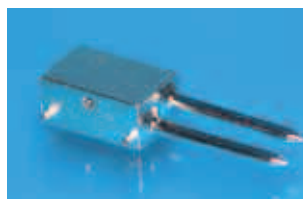


### AdvancedTCA Guide/ Keying Modules

The AdvancedTCA Guide Modules can be used in a wide variety of applications. For *motherboard-to-daughtercard applications* the vertical pin and right angle socket are used. This popular configuration is further supported by our wide offering of available keying positions. Each of the two keyed guide pins and guide sockets per module can be produced in a variety of different key positions. For *co-planar applications*, the right angle guide pins are used along with the right angle guide sockets. Both vertical and right angle guide pins are available in short or long sizes, to accommodate being used with different Tyco Electronics connectors.



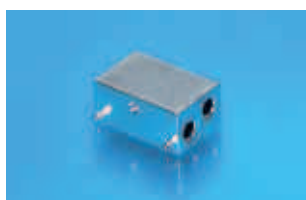
rA1



A2 (RTM)



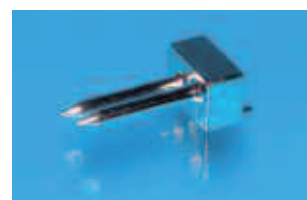
K1/K2



rK1



A1



A2

| AdvancedTCA Name | AdvancedTCA Location   | Description                                                    | Part Number |
|------------------|------------------------|----------------------------------------------------------------|-------------|
| rA1              | Backplane              | Rear Alignment Post<br>3.00 – 4.00 [.118 – .157] PCB Thickness | 1469269-2   |
| rA1              | Backplane              | Rear Alignment Post<br>4.10 – 6.00 [.161 – .236] PCB Thickness | 1469269-4   |
| rA1              | Backplane              | Rear Alignment Post<br>6.10 – 8.00 [.240 – .315] PCB Thickness | 1469269-6   |
| A2 (RTM)         | Rear Transition Module | Right Angle Male, Keyed                                        | 1-1469372-1 |
| K1/K2            | Front Board            | Right Angle Female, Keyed                                      | 1-1469373-1 |
| K1/K2            | Front Board            | Right Angle Female, Unkeyed Dummy                              | 9-1469373-9 |
| rK1              | Rear Transition        | Right Angle Female                                             | 1469374-1   |
| A1               | Backplane              | Vertical Male, Keyed, Short                                    | 1-1469387-1 |
| A2               | Mid-Plane              | Vertical Male, Keyed, Long                                     | 1-1469388-1 |

**Note:** Part Numbers are RoHS compliant.

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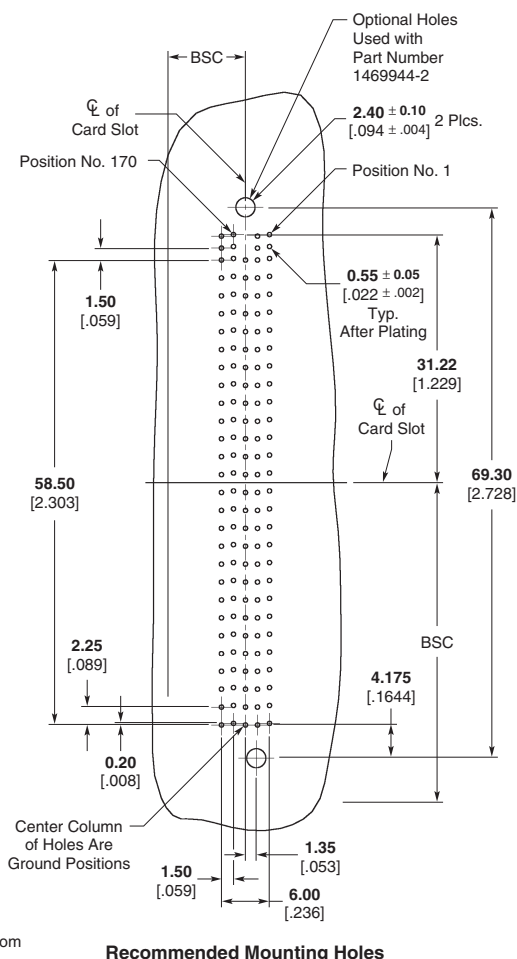
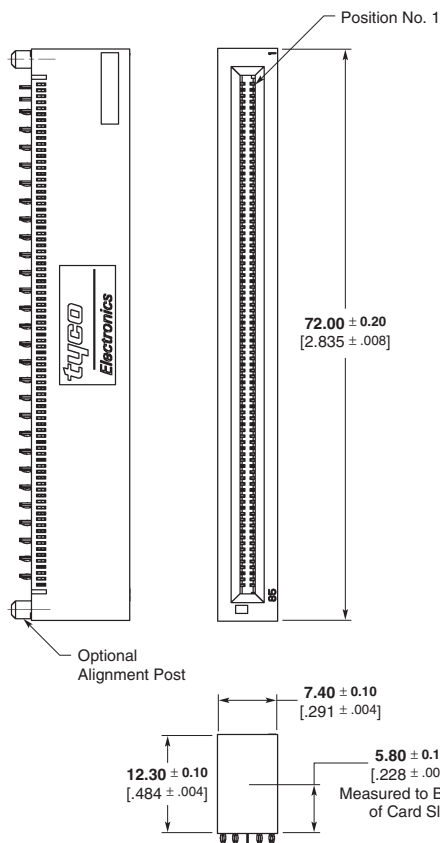
## Vertical AdvancedMC Connector for MicroTCA Applications

- Press-fit connector per MicroTCA.0 Specification
- 170 lines
- Connector designed so that custom load patterns are easily created
- Single overmolded wafer design
- Fully validated electrical models available



114-13180

| Part Number | Tail Plating | Alignment Post |
|-------------|--------------|----------------|
| 1469820-1   | Tin          | No             |
| 1469820-2   | Tin          | Yes            |
| 1469820-3●  | Tin-Lead     | No             |
| 1469820-4●  | Tin-Lead     | Yes            |



**Note:** Part Numbers are RoHS compliant except: ● Indicates “5 of 6 compliant” (lead in solderable interface only).

## Product Defined in MicroTCA Specification (Continued)

### MINIPAK HD Power Connectors

The MINIPAK HD Connector is a 2-piece board-to-board connector designed to meet the PICMG MicroTCA specification. The connector consists of 24 power contacts and 72 high density signal contacts.

#### Application

Designed for a broad range of applications in Telecom Edge and customer premise equipment, CATV hardware, wireless base stations and other communication equipment manufactured to the MicroTCA (PICMG AdvancedMC 1.0) specification. Rugged contact design and post-plated 30 micro-inch gold plating provides long-term reliability in demanding environments.

#### Electrical Characteristics

**Current Ratings** — tested in accordance with IEC 60512-5-2 Test 5a requirements:

**Signal Contacts** — .625 ampere each

**Power Contacts** —  
11.625 ampere each (PICMG MicroTCA R1.0 requirement)

14.5 ampere each (Tyco Electronics MINIPAK HD performance)

**Dielectric Withstanding Voltage** —  
80 volts rms between differential pair conductors, general purpose conductors, and power conductors

#### Environmental Characteristics

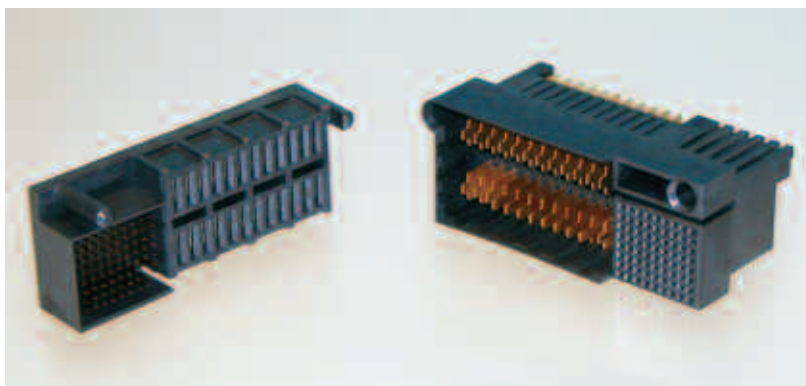
**Maximum Continuous Operating Temperature** — 100°C

**Durability Rating** — 250 cycles

#### Technical Documents

**Tyco Electronics Product Specification** — 108-2253

**PICMG Specification** —  
PICMG MicroTCA Standard



#### FEATURES:

- High Current Density
- 24 power contacts capable of carrying 14.5 Amps per contact when fully energized
- Industry proven UPM power contacts
- Hot Plug contact design controls arc during hot mate/un-mate cycles
- 3 Mating Levels:  
1st — Power/Ground,  
2nd — Power/Signal,  
3rd — Short/Enable Signal
- Tin Plated (fully RoHS compliant) or tin-lead (5 of 6 RoHS compliant) pcb tails



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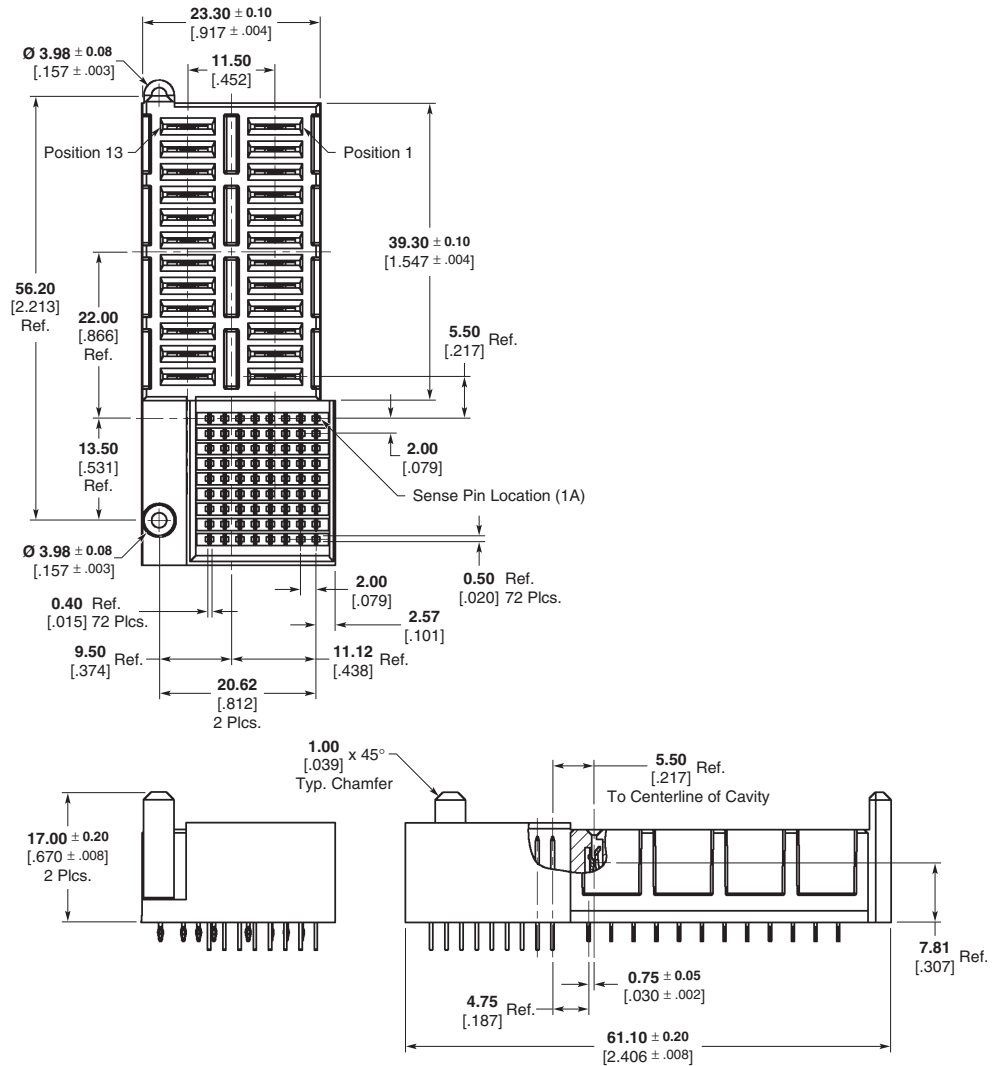
## Product Defined in MicroTCA Specification (Continued)

### MINIPAK HD Power Connectors (Continued)

#### Vertical Receptacle Part Number 1469920-1● (tin-lead pcb tails)

#### Part Number 1469920-2 (tin plated pcb tails)

The vertical connector consists of 72 2 mm pin and 24 UPM receptacle contacts. The contacts have compliant pin tails for press-fit applications.



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**Note:** Part Numbers are RoHS compliant except: ● Indicates "5 of 6 compliant" (lead in solderable interface only).

## Product Defined in MicroTCA Specification (Continued)

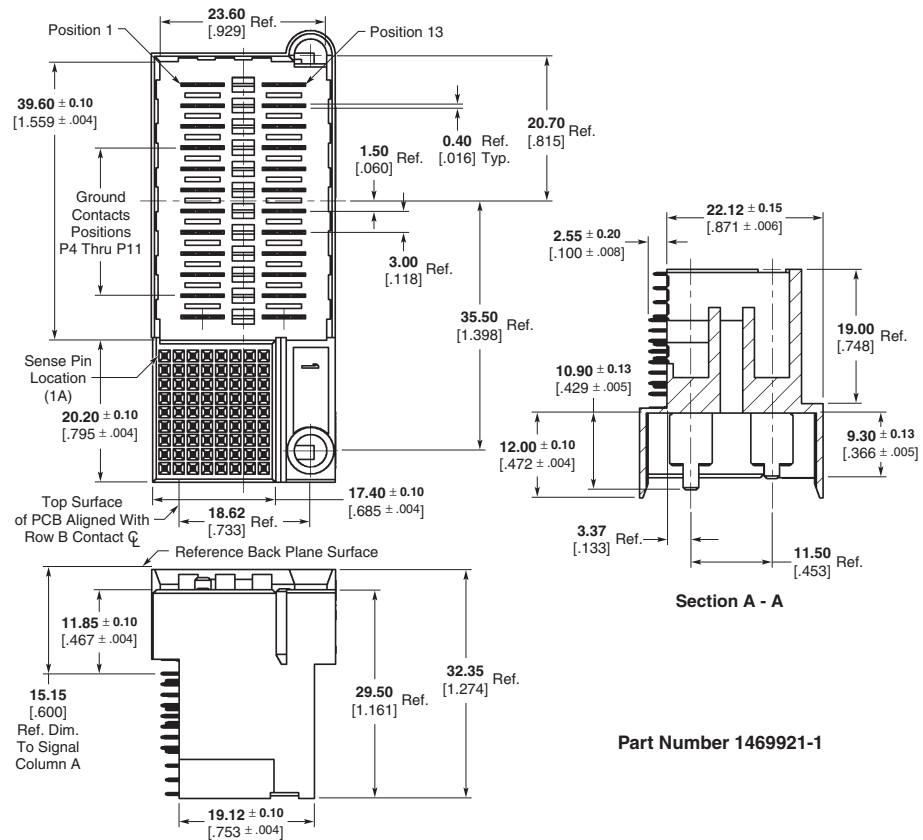
### MINIPAK HD Power Connectors (Continued)

**Right Angle Plug**  
**Part Number 1469921-1**  
(solder tail)

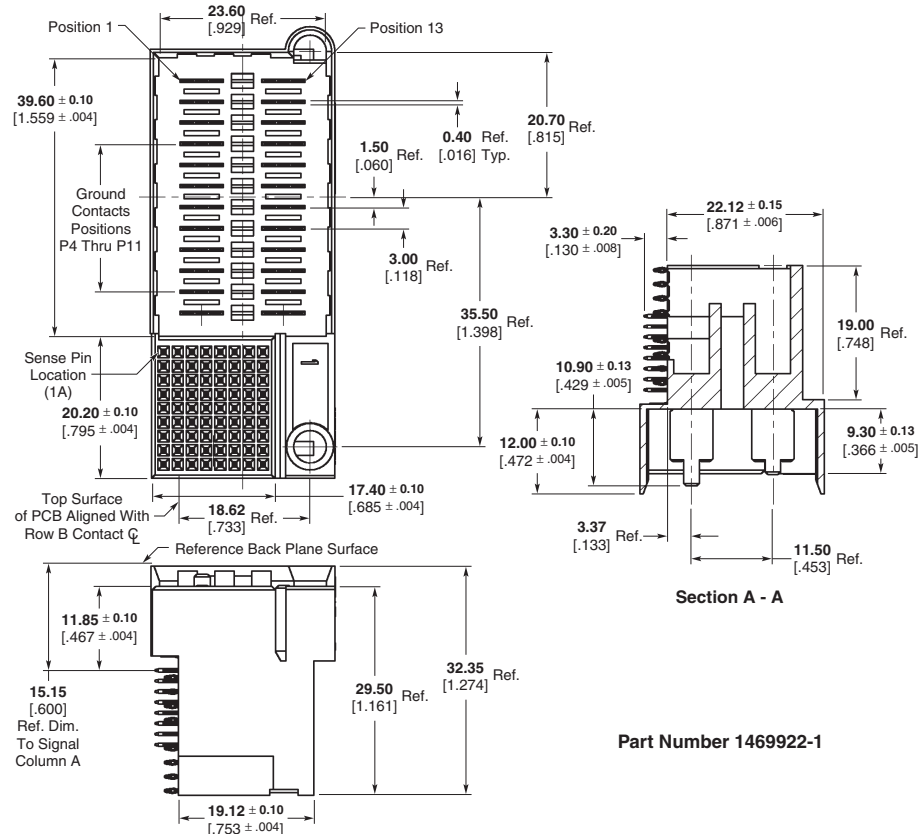
**Part Number 1469922-1**  
(press-fit)

**Part Number 1469922-2●**  
(press-fit, tin-lead pcb tails)

The right angle connector consists of 72 high density signal pins and 24 right angle UPM blades in a 2 x 12 configuration. There are 8 power blades that are longer for first mate/break last ground sequencing. The right angle connectors come in 2 piece tail variations, press-fit and solder.



Part Number 1469921-1



Part Number 1469922-1

**Note:** Part Numbers are RoHS compliant except: ● Indicates "5 of 6 compliant" (lead in solderable interface only).

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## Product Compliant to xTCA or AdvancedMC Specifications

### Stacked RJ45 Modular Jacks for AdvancedTCA, AdvancedMC Standards

Tyco Electronics has released new stacked RJ45 modular jacks designed to meet both AdvancedTCA and AdvancedMC standards. The offset has been designed to fit the faceplate and board layout in AdvancedTCA and full-size AdvancedMC modules, while providing the port density of the stacked configuration. These jacks are shielded and include panel ground springs for EMI containment. They are available in 2x1, 2x4, 2x6, and 2x8 configurations, with and without LEDs, and are designed for GigE performance.



[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)

Catalog 82066

#### FEATURES

- Offset designed to meet both AdvancedTCA and AdvancedMC standards
- Category 5 Performance
- Available in 2x1, 2x4, 2x6, and 2x8 configurations
- Press-fit termination to the board
- Available with various LED options

| Part Number<br>(3.27 mm Offset) | Configuration | LED #1<br>(Lower Port<br>Left Side) | LED #2<br>(Upper Port<br>Left Side) | LED #3<br>(Upper Port<br>Right Side) | LED #4<br>(Lower Port<br>Right Side) | Ground<br>Clips | Shield Side<br>Ground Pins |
|---------------------------------|---------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|-----------------|----------------------------|
| 1888652-1                       | 2x1           | None                                | None                                | None                                 | None                                 | No              | Yes                        |
| 1888652-2                       | 2x1           | None                                | None                                | None                                 | None                                 | Yes             | Yes                        |
| 1888653-1                       | 2x1           | Green                               | Green                               | Green                                | Green                                | No              | Yes                        |
| 1888653-2                       | 2x1           | Green                               | Green                               | Green                                | Green                                | Yes             | Yes                        |
| 1888653-3                       | 2x1           | Yellow                              | Yellow                              | Green                                | Green                                | Yes             | Yes                        |
| 1888653-4                       | 2x1           | Green                               | Green                               | Yellow                               | Yellow                               | Yes             | Yes                        |
| 1888506-1                       | 2x4           | None                                | None                                | None                                 | None                                 | No              | Yes                        |
| 1888506-2                       | 2x4           | None                                | None                                | None                                 | None                                 | Yes             | Yes                        |
| 1888507-1                       | 2x4           | Green                               | Green                               | Green                                | Green                                | No              | Yes                        |
| 1888507-2                       | 2x4           | Green                               | Green                               | Green                                | Green                                | Yes             | Yes                        |
| 1888507-3                       | 2x4           | Green                               | Green                               | Yellow                               | Yellow                               | No              | Yes                        |
| 1888507-4                       | 2x4           | Green/Yellow                        | Green/Yellow                        | Green/Yellow                         | Green/Yellow                         | Yes             | Yes                        |
| 1888508-1                       | 2x6           | None                                | None                                | None                                 | None                                 | No              | Yes                        |
| 1888508-2                       | 2x6           | None                                | None                                | None                                 | None                                 | Yes             | Yes                        |
| 1888509-1                       | 2x6           | Green                               | Green                               | Green                                | Green                                | No              | Yes                        |
| 1888509-2                       | 2x6           | Green                               | Green                               | Green                                | Green                                | Yes             | Yes                        |
| 1888509-3                       | 2x6           | Green                               | Green                               | Yellow                               | Yellow                               | No              | Yes                        |
| 1888509-4                       | 2x6           | Green/Yellow                        | Green/Yellow                        | Green/Yellow                         | Green/Yellow                         | Yes             | Yes                        |
| 1888654-1                       | 2x8           | None                                | None                                | None                                 | None                                 | No              | No                         |
| 1888654-2                       | 2x8           | None                                | None                                | None                                 | None                                 | No              | Yes                        |
| 1888654-3                       | 2x8           | None                                | None                                | None                                 | None                                 | Yes             | Yes                        |
| 1888654-4                       | 2x8           | None                                | None                                | None                                 | None                                 | Yes             | No                         |
| 1888655-1                       | 2x8           | Green                               | Green                               | Green                                | Green                                | No              | No                         |
| 1888655-2                       | 2x8           | Green                               | Green                               | Green                                | Green                                | No              | Yes                        |
| 1888655-3                       | 2x8           | Green                               | Green                               | Green                                | Green                                | Yes             | Yes                        |
| 1888655-4                       | 2x8           | Green                               | Green                               | Green                                | Green                                | Yes             | No                         |
| 1888655-5                       | 2x8           | Green                               | Green                               | Yellow                               | Yellow                               | No              | Yes                        |

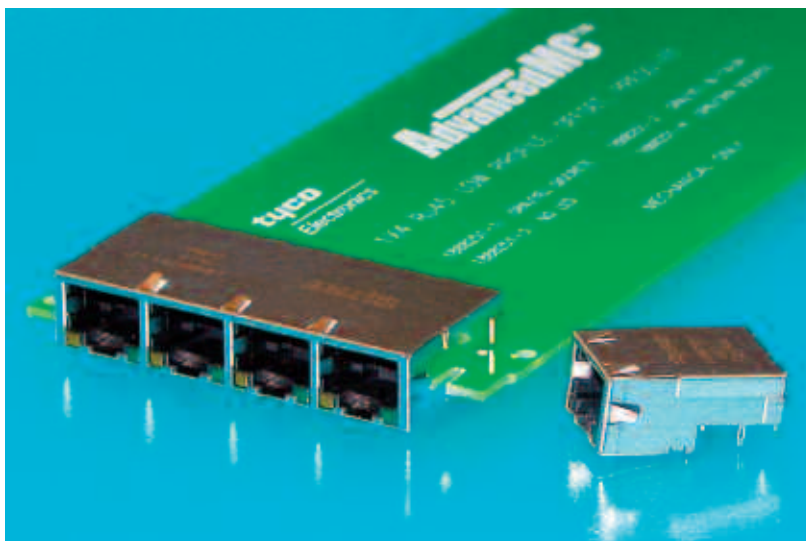
**Note:** Part Numbers are RoHS compliant.

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## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### Low Profile RJ45 Modular Jacks

To meet the requirements for I/O connectors on AdvancedTCA and AdvancedMC cards, Tyco Electronics has released new low profile RJ45 modular jacks. The offset from the board is designed such that it fits in an AdvancedMC half height faceplate. These jacks are shielded and include panel ground springs for EMI containment. They are available in single port and 1x4 configurations, with and without LEDs, and are designed for GigE performance.



#### FEATURES

- Category 5e Performance
- Available in single port and 1x4 configurations
- Low profile meets half height requirements. 4.20 mm above PCB, 7.38 mm below PCB
- Press-fit termination to the board
- Available with various LED options

| Part Number | Configuration | LED (Left)   | LED (Right)  |
|-------------|---------------|--------------|--------------|
| 1888250-1   | 1x1           | Green        | Yellow       |
| 1888250-2   | 1x1           | Green/Yellow | Green/Yellow |
| 1888250-3   | 1x1           | None         | None         |
| 1888250-4   | 1x1           | Green        | Green        |
| 1888251-1   | 1x4           | Green        | Yellow       |
| 1888251-2   | 1x4           | Green/Yellow | Green/Yellow |
| 1888251-3   | 1x4           | None         | None         |
| 1888251-4   | 1x4           | Green        | Green        |

**Note:** Part Numbers are RoHS compliant.

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## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### AdvancedTCA — Front & Rear I/O Connectors – SFP Modules

The SFP (Small Form-Factor Pluggable) supports hot swap of various types of fiber optics and copper based transceivers into host equipment. This allows the customer to have a flexible change between different protocols. The different applications are Fiber Channel, Ethernet, and Infiniband. SFP board cages exist in multiple versions that fit AdvancedTCA systems.

The one port cages are available in a one piece design (press-fit or solder) and a two piece design (press-fit, solder or SMT). Ganged versions (available in 1x6; 1x4; 1x2) are available with or without light pipes. The ganged product has the option of integrated host connector. Tyco Electronics is currently developing stacked versions (2x4 as primary option) that fit AdvancedTCA requirements.

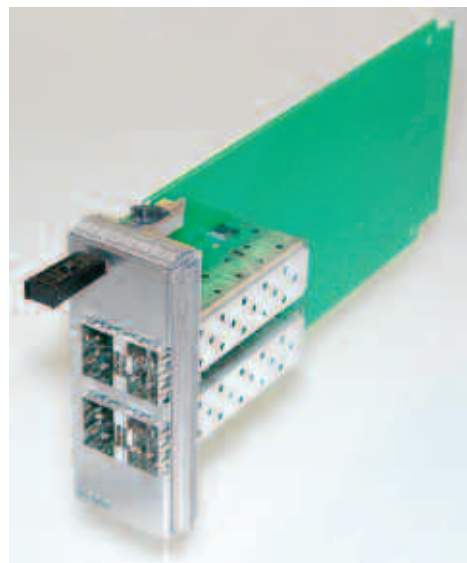
[www.tycoelectronics.com/product/atca](http://www.tycoelectronics.com/product/atca)  
[www.sfp.tycoelectronics.com](http://www.sfp.tycoelectronics.com)

**Catalog 1773408**

**Flyer 1654720 / 1654095 / 1773078**

#### FEATURES

- Products according to MSA (Multi-Source Agreement)
- Uses 20 positions PT connector
- Hot Swappable
- Three stage sequencing
- Supports data-rates up to 5 Gbps
- Chassis ground for pass through EMI protection to 12.5 Gbps
- Accepts copper and fiber optic transceivers
- Direct attach copper cable assemblies available with or without active equalization.



#### SFP Modules

| Part Number    | Port Configuration | Insertion Style | Connector Included | Height Profile |
|----------------|--------------------|-----------------|--------------------|----------------|
| <b>Stacked</b> |                    |                 |                    |                |
| 1658628-1      | 2x1                | Press-fit       | Yes                | Low            |
| 1658629-1      | 2x4                | Press-fit       | Yes                | Low            |
| 1658894-1      | 2x6                | Press-fit       | Yes                | Low            |
| <b>Ganged</b>  |                    |                 |                    |                |
| 1761014-1      | 1x2                | Press-fit       | No                 | —              |
| 1658744-1      | 1x4                | Press-fit       | No                 | —              |
| 1761015-1      | 1x6                | Press-fit       | No                 | —              |
| <b>Single</b>  |                    |                 |                    |                |
| 6367035-1      | 1x1                | Solder Tail     | No                 | Standard       |
| 6367034-1      | 1x1                | Solder Tail     | No                 | Standard       |
| 1489669-1      | 1x1                | Press-fit       | No                 | Standard       |
| 1489779-1      | 1x1                | Press-fit       | No                 | Standard       |

**Note:** Part Numbers are RoHS compliant.

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## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### AdvancedTCA — Front & Rear I/O Connectors — MRJ21 Receptacles

Tyco Electronics' MRJ21 receptacle is a high density I/O interconnect. This high density connector supports AdvancedMC Mid-size and Full-size module face plates and AdvancedTCA face plates. It can also be used for Rear I/O via Rear Transition Modules (RTMs), as well as in AdvancedTCA Zone 3 applications.

The MRJ21 connector is fully shielded and provides density savings for current 10/100 or GbE RJ45/RJ21 applications. The low profile and narrow width design will allow more ports to be packed into less space.

Tyco Electronics offers a full end-user solution with cleaner cabling solutions over RJ45s, and patch panels for plug-and-play environment, including data centers and zone cabled or open office environments.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)

#### FEATURES

- 1.5 to 3 times the port density of stacked Mod Jacks (RJ45). 3 times the port density of RJ21
- Contact layout and footprint for differential pairs creates reduced cross-talk and built in compensation
- Connector is designed to meet or exceed Cat 5e cross-talk
- Fully shielded system to control EMI (Electro-magnetic Interference)
- Robust die cast cable covers provide 45 degrees left or right cable exit for ease of routing
- 1 mm pair spacing, 1.5 mm pair to pair spacing
- Patch panels and cable management solutions available



#### MRJ21 PCB Receptacles (48-position)

| Part Number | Panel Grounds | PCB Termination |
|-------------|---------------|-----------------|
| 1761482-1   | No            | Solder          |
| 1761482-2   | Yes           | Solder          |
| 1761482-4   | No            | Press-Fit       |

#### Receptacle Screwlocks

| Part Number | Panel Thickness |
|-------------|-----------------|
| 1339381-1   | < 1mm           |
| 1339381-2   | > 1mm to < 2mm  |

Screwlocks sold separately

**Note:** Part Numbers are RoHS compliant.

### AdvancedTCA — Thermal Products & Services

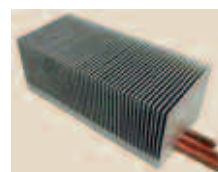
Thermal Interface Products are mandatory for reducing the waste heat and cooling the system in the most efficient way. Waste heat reduces the silicon chip reliability and performance. In addition to the products Tyco Electronics is offering such as Heat Sinks, Heat Pipes and CHIP COOLERS, in all shapes and sizes, Tyco Electronics offers state of the art Thermal Management Services. Thermal Management is the design practice of moving waste heat to locations that do not affect the equipment or overall device performance. Each Thermal Product can be fully customized to fulfill the specific requested system cooling requirements.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)  
[www.thermal.tycoelectronics.com](http://www.thermal.tycoelectronics.com)

**Catalog 1309431**  
**Flyer 1308225**

#### FEATURES

- Tyco Electronics thermal solutions provide optimum cooling for active components like BGA (Ball Grid Array), MCM modules, optical modules and power devices
- Compatible to most AdvancedTCA connector form factors, low profile solutions
- Off the shelf as well as customized products
- Heat pipe technology in combination with passive heat sinks
- Advanced thermal conductive polymer for weight and cost reduction
- Full CFD (Computational Fluid Dynamics) simulation and analysis, optimum Thermal design numerical and analytical approaches



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## Low Profile DDR2 Connector for AdvancedTCA Standards

In addition, this connector offers a new ejector design that allows airflow to reach the memory module DRAMs for effective cooling.

- Accepts new Micron Technology VLP (Very Low Profile) DDR2 memory module designed specifically for the AdvancedTCA carrier board
- Special designed ejectors that allow airflow to reach memory module DRAMs for efficient cooling
- Low module seating plane allows for increased module space for module components in a VLP form factor
- Utilizes proven Tyco Electronics DDR2 contact design for reliable interface to the memory module
- Available in 3 solder tail lengths and contact interface plating options



The drawing illustrates the mechanical specifications of the PA-GF33-HT connector. It includes a top view showing the overall length of 140.90 inches [5.547] and the position of the card slot and extractor tower. A side view shows the profile of the connector with a maximum component height of 6.85 inches [2.70] in the extractor shadow area. A detail view shows the connector's internal structure, including the retention barbs and the alignment key. Dimensions are provided in inches [millimeters] and include tolerances and reference points.

**Top View Dimensions:**

- Overall Length: 140.90 [5.547] Max.
- Extractor Tower Width: 5.54 [2.18]
- Main Body Width: 7.54 [2.97]
- Card Slot Width: 1.45 + 0.05 / - 0.08 [0.057 + 0.002 / - 0.003]
- Key Width: 1.30 ± 0.05 [0.051 ± 0.002]

**Side View Dimensions:**

- Extractor Shadow Area Height: 6.85 Max. [2.70]
- Latch Open Height: 9.00 Max. [3.54]
- Connector Centerline (CL of Connector)
- Alignment Key Centerline (CL of Alignment Key)
- Key Height: 3.55 Max. [1.40]
- PCB to Card Slot Floor: 2.95 Max. [0.116]
- Card Slot Floor to PCB: 0.36 Ref. [0.014]
- Retention Barb Height: 0.20 [0.008] Ref.

**Detail View Dimensions:**

- Retention Barb: 0.20 [0.008] Ref.
- Retention Barb Height: 2.50 Min. [0.098] 3 Plcs.
- Retention Barb Width: 4.00 Max. [1.57] 3 Plcs.
- Retention Barb Spacing: 8.15 [3.21] 2 Plcs.
- Retention Barb Length: 21.00 Max. [8.27] 2 Plcs.

**Bottom View Dimensions:**

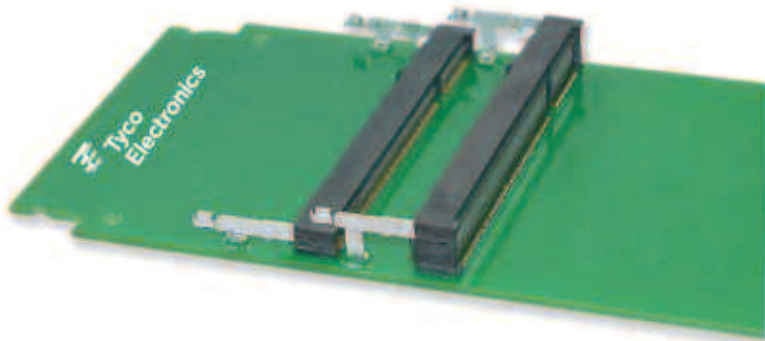
- Open Latch: 165.00 Max. [6.496]
- Latch Closed: 145.00 Max. [5.709]
- PCB Footprint: 142.00 Max. [5.591]
- PCB Footprint Width: 10.00 Min. [3.94] 2 Plcs.
- PCB Footprint Height: 5.00 Min. [1.97] 2 Plcs.
- PCB Footprint Length: 14.50 Min. [5.71] 2 Plcs.
- PCB Footprint Width: 21.00 Max. [8.21] 2 Plcs.

**Note:** Part Numbers are RoHS compliant.

## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### Small Outline Dual In-Line Memory Module (SO DIMM) for AdvancedMC Applications

The Small Outline Dual In-Line Memory Module (SO DIMM) is the latest in the Tyco Electronics DIMM product line and was specifically designed to meet the AdvancedMC Specification. The SO DIMM has 200 positions in a dual row design, and features gold flash solder tail contact plating. Available in two heights, the SO DIMM will fit any AdvancedMC Application.

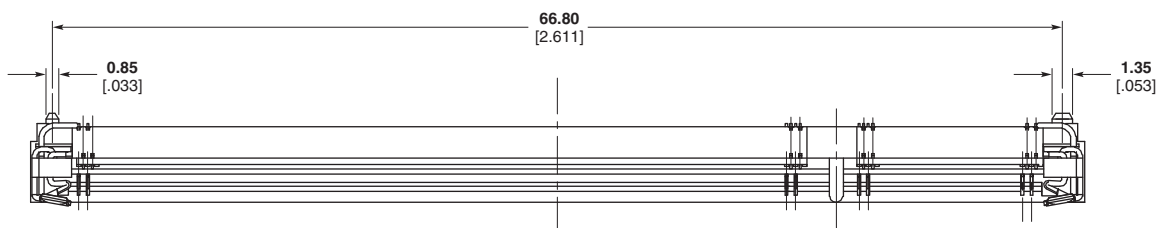


#### FEATURES

- 200 positions
- Gold Flash Solder Tail Contact Plating

| Part Number | Stack Height | Keying Feature |
|-------------|--------------|----------------|
| 1981281-4   | 5.20<br>.203 | Reverse        |
| 1981276-4   | 5.20<br>.203 | Standard       |
| 1981287-4   | 9.20<br>.360 | Reverse        |
| 1981284-4   | 9.20<br>.360 | Standard       |

#### Part Number 1981281-4



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**Note:** Part Numbers are RoHS compliant.

## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### 1.0 mm Free Height (FH) (IEEE 1386) Connectors

As a standard for adding local PCI or Sbus performance to Futurebus+ and VMEbus applications, IEEE 1386 offers new levels of performance and packaging convenience through the mezzanine architecture.

Tyco Electronics makes it easier and more productive to add an IEEE 1386 mezzanine connector to your system. The surface-mount parallel stacking connector features contacts on a 1.0 [.039] pitch and is available in eight stacking heights from 8 [.315] to 15 [.591]. Sizes include the IEEE 1386 standard 64-position version and an optional 84-position version.

Not only is the connector compatible with EIA-700 AAAB — the connector standard for IEEE 1386 mezzanine connectors — it offers several enhancements that make it easier to use and more reliable. Increased plastic clearance between mating connectors makes it easier to align multiple connectors for mating, thus eliminating stress to the solder joints during engagement. Improved locating posts allow fast, highly accurate hand placement of connectors. The connectors are available with vacuum covers for automated placement.

#### Performance Characteristics

##### Current Rating —

1.0 ampere per contact

##### Contact Resistance —

30 milliohms max. (initial)

**Durability** — tested to 100 mating cycles min.

#### Product Specification

108-2246

### 1.0 mm FH (IEEE 1386) Receptacles and Plugs without Locating Posts, 1.0 [.039] Pitch

#### 8 [.315] thru 15 [.591] Stacking Heights Material and Finish

**Housing** — Liquid crystal polymer, black

**Contacts** — Phosphor bronze; duplex plated 0.00076 [.000030] or .00127 [.00050] min. gold on contact area, 0.00381 [.000150] min. tin on solder area, with entire contact underplated 0.00127 [.000050] min. nickel

**Vacuum Cover** — Aluminum Alloy

#### Technical Documents

EIA-700 AAAB Specification

Application Specification

114-25045

#### FEATURES:

- For board stacking applications
- High density packaging on 1.0 [.039] centerline spacing
- Available in standard 64-position and optional 84-position sizes
- "Tape-and-reel" packaged per EIA standards
- Board stacking heights available from 8 [.315] to 15 [.591]
- Increased plastic clearance eliminates stress to solder joints during mating
- Improved locating posts provide accurate hand or robotic placement
- Meets EIA-700 AAAB specifications for IEEE 1386 applications



| No. of Positions | Height        | Receptacle Part Number        |                               |
|------------------|---------------|-------------------------------|-------------------------------|
|                  |               | 30μ" Au Plating w/ pickup cap | 50μ" Au Plating w/ pickup cap |
| 64               | 5.37<br>.211  | 5120528-1                     | 1-5120528-1                   |
|                  | 7.37<br>.290  | 5120529-1                     | 1-5120529-1                   |
|                  | 8.37<br>.330  | 5120530-1                     | 1-5120530-1                   |
|                  | 10.37<br>.408 | 5120531-1                     | 1-5120531-1                   |
| 84               | 5.37<br>.211  | 5120528-2                     | 1-5120528-2                   |
|                  | 7.37<br>.290  | 5120529-2                     | 1-5120529-2                   |
|                  | 8.37<br>.330  | 5120530-2                     | 1-5120530-2                   |
|                  | 10.37<br>.408 | 5120531-2                     | 1-5120531-2                   |

**Notes:** 1. Shorter solder lands may be used per EIA-700 AAAB. However, the 2.4 [.094] length assures optimum solder fillet regardless of connector manufacturer.

| No. of Positions | Height       | Plug Part Number              |                               |
|------------------|--------------|-------------------------------|-------------------------------|
|                  |              | 30μ" Au Plating w/ pickup cap | 50μ" Au Plating w/ pickup cap |
| 64               | 6.35<br>.250 | 5120532-1                     | 1-5120532-1                   |
|                  | 7.35<br>.289 | 5120533-1                     | 1-5120533-1                   |
|                  | 8.35<br>.329 | 5120534-1                     | 1-5120534-1                   |
| 84               | 6.35<br>.250 | 5120532-2                     | 1-5120532-2                   |
|                  | 7.35<br>.289 | 5120533-2                     | 1-5120533-2                   |
|                  | 8.35<br>.329 | 5120534-2                     | 1-5120534-2                   |

**Notes:** 1. Shorter solder lands may be used per EIA-700 AAAB. However, the 2.7 [.106] length assures optimum solder fillet regardless of connector manufacturer.

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**Note:** Part Numbers are RoHS compliant.

## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### AdvancedTCA — Power Distribution & Management Modules

Tyco Electronics Power Systems introduces the industry's first power input management solution for AdvancedTCA boards. The AdvancedTCA power input module (PIM) is designed in collaboration with industry leading AdvancedTCA board manufacturers and provides innovative features and compact design. PIM modules incorporate all the features required by AdvancedTCA specifications (PICMG 3.0) and enable designers to save valuable board real estate and reduce overall board cost and time to market compared to discrete solutions.

#### A Complete Power Architecture

PIM series along with Tyco Electronics' isolated DC/DC and bus converters and point of load modules, provide a complete and low-cost power architectural solution while complying with AdvancedTCA board power requirements.

[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)  
[www.power.tycoelectronics.com](http://www.power.tycoelectronics.com)

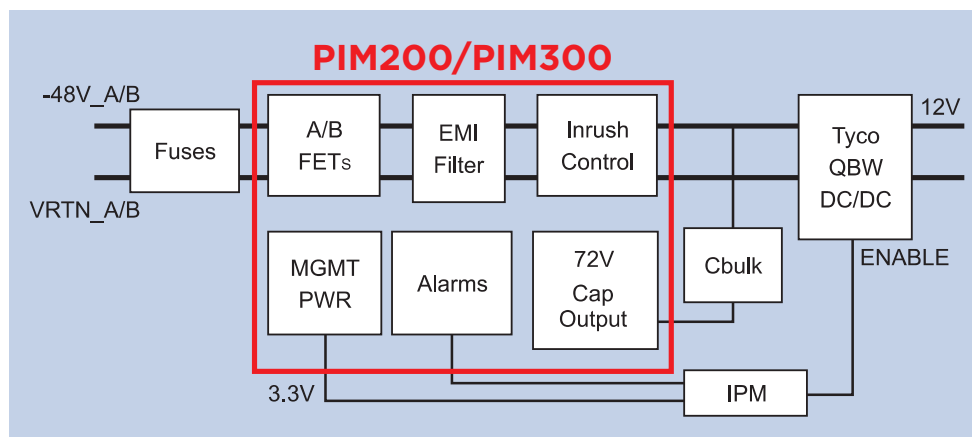
Flyer PIM05-001

#### FEATURES

- 200/300 W of power (per PICMG 3.0)
- Inrush control protection
- Integrated EMI filter designed to meet CISPR Class B Limits
- Directive 2002/95/EC RoHS compliant
- 8 W of Isolated auxiliary power supply for IPMI (3.3 V or 5 V)
- O-Ring FETs for -48 V A&B feeds
- A/B feed loss alarm
- Hot-swap control
- 72 V charging voltage for holdup/ bulk capacitors
- Through-hole and surface mount (SMT) versions
- Input under-voltage and over-voltage protections
- Over current and thermal protections
- UL/CSA/CE/VDE approved



|                          | PIM   | Discrete    |
|--------------------------|-------|-------------|
| PICMG 3.0 compliant      | Yes   | Board level |
| Fully tested & burned-in | Yes   | Board level |
| Fully qualified          | Yes   | Board level |
| Parts count              | 1     | > 100       |
| Design-in time           | Lower | Higher      |
| Assembly cost            | Lower | Higher      |
| Yield/Repair cost        | Lower | Higher      |
| Time to market           | Lower | Higher      |
| Standard off-shelf part  | Yes   | No          |



| Device Code | Input Voltage           | Output Power | V <sub>mg/mt</sub> Output | Connector Type | Comcode     |
|-------------|-------------------------|--------------|---------------------------|----------------|-------------|
| PIM200FZ    | -48 V (-38 to -75 V DC) | 200 W        | -3.3 V DC                 | Thru Hole      | CC109101813 |
| PIM200AZ    | -48 V (-38 to -75 V DC) | 200 W        | -5.0 V DC                 | Thru Hole      | CC109106762 |
| PIM300FZ    | -48 V (-38 to -75 V DC) | 300 W        | -3.3 V DC                 | Thru Hole      | CC109113858 |
| PIM300AZ    | -48 V (-38 to -75 V DC) | 300 W        | -5.0 V DC                 | Thru Hole      | CC109122322 |

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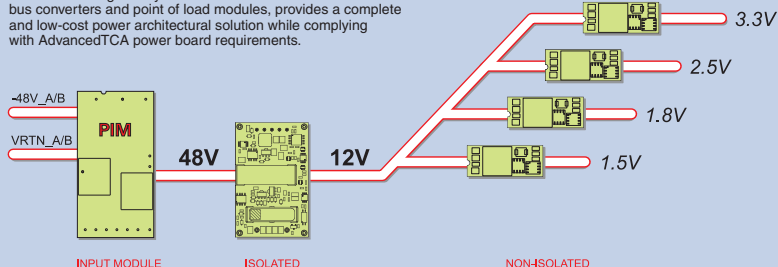


## Product Compliant to xTCA or AdvancedMC Specifications (Continued)

### AdvancedTCA — Power Distribution & Management Modules (Continued)

#### A Complete Power Architecture

PIM series along with Tyco Electronics' isolated DC/DC and bus converters and point of load modules, provides a complete and low-cost power architectural solution while complying with AdvancedTCA power board requirements.



#### Isolated Bus Converters

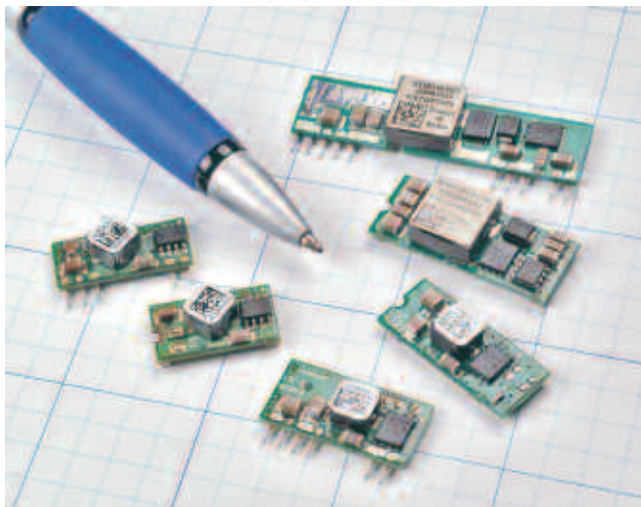
| Full Featured DC-DC Converter Series | Output Power (W) | Output Current (A) | Input Voltage (V) | Output Voltage (V) | Efficiency (%) | Current Share | Form Factor | Connection Type | Base Plate |
|--------------------------------------|------------------|--------------------|-------------------|--------------------|----------------|---------------|-------------|-----------------|------------|
| EQW006A0B                            | 72 W             | 6 A                | 48 V (36 – 75)    | 12 V (11.6 – 12.4) | 92 %           | No            | Eight-Brick | TH/SMT          | No         |
| EQW010A0B                            | 120 W            | 10 A               | 48 V (36 – 75)    | 12 V (11.4 – 12.6) | 93 %           | No            | Eight-Brick | TH              | Yes        |
| QBW018A0B                            | 200 W            | 18 A               | 48 V (36 – 75)    | 12 V (11.4 – 12.6) | 94 %           | Yes           | Qtr-Brick   | TH              | Yes        |
| QBW025A0B                            | 300 W            | 25 A               | 48 V (36 – 75)    | 12 V (11.4 – 12.6) | 94 %           | Yes           | Qtr-Brick   | TH              | Yes        |
| JRB017A0B                            | 200 W            | 17 A               | 48 V (36 – 75)    | 12 V (11.7 – 12.3) | 92 %           | Yes           | Half-Brick  | TH              | Yes        |

#### Non-Isolated DC-DC Converters

| Austin Lynx Series | Output Current (A) | Input Voltage Range (V) | Output Voltage Range (V) | Efficiency (%) | Output Programmable | Remote On/Off | Remote Sense | EZ-Sequence | Connector Type |
|--------------------|--------------------|-------------------------|--------------------------|----------------|---------------------|---------------|--------------|-------------|----------------|
| Austin MiniLynx    | 3 A                | 8.3 – 14 V              | 0.75 – 5.0 V             | 91 %           | Yes                 | Yes           | No           | No          | SIP/SMT        |
| Austin MicroLynx   | 5 A                | 10 – 14 V               | 0.75 – 5.0 V             | 89 %           | Yes                 | Yes           | No           | No          | SIP/SMT        |
| Austin Lynx        | 10 A               | 10 – 14 V               | 0.75 – 5.0 V             | 93 %           | Yes                 | Yes           | Yes          | No          | SIP/SMT        |
| Austin SuperLynx   | 16 A               | 10 – 14 V               | 0.75 – 5.0 V             | 92 %           | Yes                 | Yes           | Yes          | No          | SIP/SMT        |

| Austin Lynx II Series | Output Current (A) | Input Voltage Range (V) | Output Voltage Range (V) | Efficiency (%) | Output Programmable | Remote On/Off | Remote Sense | EZ-Sequence | Connector Type |
|-----------------------|--------------------|-------------------------|--------------------------|----------------|---------------------|---------------|--------------|-------------|----------------|
| Austin MicroLynx II   | 6 A                | 8.3 – 14 V              | 0.75 – 5.0 V             | 89 %           | Yes                 | Yes           | No           | Yes         | SIP/SMT        |
| Austin Lynx II        | 10 A               | 8.3 – 14 V              | 0.75 – 5.0 V             | 93 %           | Yes                 | Yes           | Yes          | Yes         | SIP/SMT        |
| Austin SuperLynx II   | 16 A               | 8.3 – 14 V              | 0.75 – 5.0 V             | 92 %           | Yes                 | Yes           | Yes          | Yes         | SIP/SMT        |
| Austin MegaLynx II    | 25 A               | 6.0 – 14 V              | 0.80 – 3.3 V             | 92.5 %         | Yes                 | Yes           | Yes          | Yes         | SIP/SMT        |



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## Part Number Index

**Note:** This index lists all cataloged parts by base no. only. Complete part nos. (with prefixes and/or suffixes) are shown on the page(s) indicated.

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Technical Support is staffed with specialists well versed in all Tyco Electronics products. They can provide you with:

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- Catalogs
- Technical Documents
- Product Samples
- Tyco Electronics  
Authorized Distributor  
Locations

### Website

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**At [www.tycoelectronics.com](http://www.tycoelectronics.com)  
you'll find many useful applications and plenty of product information**

- **Product News —**  
The latest information on new developments from various Tyco Electronics brands.
- **Industries —**  
Use our industry pages to quickly find the right product for your application.
- **Products —**  
Discover information on our vast array of products ranging from Amplifiers to Wire & Cable.
- **Customer Service and Support —**  
Find contact numbers for Customer Service and Product Information Help Desks plus FAQs and online technical assistance.

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## Product Websites

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[www.tycoelectronics.com/products/atca](http://www.tycoelectronics.com/products/atca)  
[www.tycoelectronics.com](http://www.tycoelectronics.com)  
[www.elastomerictech.com](http://www.elastomerictech.com)  
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[www.multigirt.tycoelectronics.com](http://www.multigirt.tycoelectronics.com)  
[www.elconproducts.com](http://www.elconproducts.com)  
[www.tycoelectronics.com/fiberoptics](http://www.tycoelectronics.com/fiberoptics)

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## Americas

**Argentina** – Buenos Aires  
Phone: +54-11-4733-2200  
Fax: +54-11-4733-2211

**Brasil** – São Paulo  
Phone: +55-11-3611-1311  
Fax: +55-11-3611-0397

**Canada** – Toronto  
Phone: +905-475-6222  
Fax: +905-474-5520  
**Product Information Center:**  
**(Technical Support)**  
Phone: +905-470-4425  
Fax: +905-474-5525

**Colombia** – Bogota  
Phone: +57-1-231-9398  
Fax: +57-1-660-0206

**Mexico** – Mexico City  
Phone: +52-55-1106-0800  
+01-800-733-8926  
Fax: +52-55-1106-0901

**United States** – Harrisburg, PA  
Phone: +717-564-0100  
Fax: +717-986-7575  
**Product Information Center:**  
**(Technical Support)**  
Phone: +800-522-6752  
Fax: +717-986-7575

**For Latin/South American Countries not shown**  
Phone: +54-11-4733-2015  
Fax: +54-11-4733-2083

## Asia/Pacific

**Australia** – Sydney  
Phone: +61-2-9554-2600  
Fax: +61-2-9502-2556  
**Product Information Center:**  
**(Technical Support)**  
Phone: +61-2-9840-8200  
Fax: +61-2-9634-6188

**India** – Bangalore  
Phone: +91-80-285-40800  
Fax: +91-80-285-40820

**Indonesia** – Jakarta  
Phone: +65-6482-0311  
Fax: +65-6482-1012

**Japan** – Tokyo  
Phone: +81-44-844-8111  
Fax: +81-44-812-3207  
**Product Information Center:**  
**(Technical Support)**  
Phone: +81-44-844-8013  
Fax: +81-44-812-3200

**Korea** – Seoul  
Phone: +82-2-3415-4500  
Fax: +82-2-3486-3810

**Malaysia** – Kuala Lumpur  
Phone: +60-3-78053055  
Fax: +60-3-78053066

**New Zealand** – Auckland  
Phone: +64-9-634-4580  
Fax: +64-9-634-4586

**Philippines** – Makati City  
Phone: +632-848-0171  
Fax: +632-867-8661

**People's Republic of China**  
Hong Kong  
Phone: +852-2735-1628  
Fax: +852-2735-0243

Shanghai  
Phone: +86-21-2407-1588  
Fax: +86-21-2407-1599

Taiwan – Taipei  
Phone: +886-2-8768-2788  
Fax: +886-2-8768-2268

**Singapore** – Singapore  
Phone: +65-6482-0311  
Fax: +65-6482-1012

**Thailand** – Bangkok  
Phone: +66-2-955-0500  
Fax: +66-2-955-0505

**Vietnam and Indochina** –  
Ho Chi Minh City  
Phone: +84-8 930-5546  
Fax: +84-8 930-3443

## Europe/Middle East/Africa

**Austria** – Vienna  
Phone: +43-1 90 5 60-0  
Fax: +43-1 90 5 60-1333

**Belgium** – Kessel-Lo  
Phone: +32-16-35-23-00  
Fax: +32-16-35-23-52

**Bulgaria** – Sofia  
Phone: +359-2-971-2152  
Fax: +359-2-971-2153

**Czech Republic** – Kurim  
Phone: +420-5-41-162-111  
Fax: +420-5-41-162-223

**Denmark** – Glostrup  
Phone: +45-43-480-452  
Fax: +45-43-441-414

**Egypt** – Cairo  
Phone: +20-2-29 04 281  
Fax: +20-2-41 92 334

**Estonia** – Tartu  
Phone: +372-5138-274  
Fax: +372-7400-779

**Finland** – Helsinki  
Phone: +358-95-12-34-20  
Fax: +358-95-12-34-250

**France** – Cergy-Pontoise  
Phone: +33-1-3420-8888  
Fax: +33-1-3420-8600  
**Product Information Center:**  
**(Technical Support)**  
Phone: +33-1-3420-8943  
Fax: +33-1-3420-8623

**Germany** – Bensheim  
Phone: +49-6251-133-0  
Fax: +49-6251-133-1600  
**Product Information Center:**  
**(Technical Support)**  
Phone: +49-6251-133-1999  
Fax: +49-6251-133-1988

**Germany** – Langen  
Phone: +49-6103-709-0  
Fax: +49-6103-709-1223

**Germany** – Speyer  
Phone: +49-6232-30-0  
Fax: +49-6232-30-2243

**Germany - HTS Division** – Neunkirchen  
Phone: +49-2247-305-0  
Fax: +49-2247-305-122

**Greece** – Athens  
Phone: +30-210-9370-396/397  
Fax: +30-210-9370-655

**Hungary** – Budapest  
Phone: +36-1-289-1000  
Fax: +36-1-289-1010

**Ireland** – Dublin  
Phone: +353-1-820-3000  
Fax: +353-1-820-9790

**Israel** – Yokneam  
Phone: +972-4-959-0508  
Fax: +972-4-959-0506

**Italy** – Collegno (Torino)  
Phone: +39-011-4012-111  
Fax: +39-011-4031116

**Lithuania** – Vilnius  
Phone: +370-5-2131-402  
Fax: +370-5-2131-403

**Netherlands** – 's-Hertogenbosch  
Phone: +31-73-624-62-46  
Fax: +31-73-621-23-65  
**Product Information Center:**  
**(Technical Support)**  
Phone: +31-73-6246-999  
Fax: +31-73-6246-998

**Norway** – Nesbru  
Phone: +47-66-77-8886  
Fax: +47-66-77-8855

**Poland** – Warsaw  
Phone: +48-22-45-76-700  
Fax: +48-22-45-76-720

**Romania** – Bucharest  
Phone: +40-21-311-3479/3596  
Fax: +40-21-312-0574

**Russia** – Moscow  
Phone: +7-495-926-5506/07/08/09  
Fax: +7-495-926-5505

**Russia** – St. Petersburg  
Phone: +7-812-718-8192  
Fax: +7-812-718-8193

**Slovenia** – Ljubljana  
Phone: +386-1561-3270  
Fax: +386-1561-3240

**South Africa** – Port Elizabeth  
Phone: +2741-503-4500  
Fax: +2741-581-0440

**Spain** – Barcelona  
Phone: +34-93-291-0330  
Fax: +34-93-201-7879  
**Product Information Center:**  
**(Technical Support):**  
Phone: +34-93-291-0330  
Fax: +34-93-200-3779

**Sweden** – Upplands Väsby  
Phone: +46-8-50-72-50-00  
Fax: +46-8-50-72-50-01

**Switzerland** – Steinach  
Phone: +41-71-447-0447  
Fax: +41-71-447-0444

**Turkey** – Istanbul  
Phone: +90-212-281-8181/2/3  
Fax: +90-212-281-8184

**Ukraine** – Kiev  
Phone: +380-044-206-2265  
Fax: +380-044-206-2264

**United Kingdom** – Swindon  
Phone: +44-8706-080-208  
Fax: +44-1793-572-516  
**Product Information Center:**  
**(Technical Support)**  
Freephone GB: 0800-267-666  
Phone: +44-8706-080-208  
Fax: +44-208-420-8081

**For Middle East/African Countries Not Shown**  
Phone: +33-1-3420-8866  
Fax: +33-1-3420-8300



**Tyco Electronics Corporation**  
Harrisburg, PA

[tycoelectronics.com](http://tycoelectronics.com)

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